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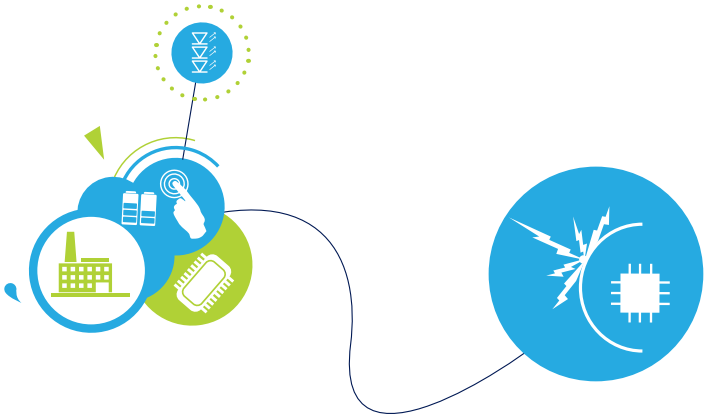
Protection devices and integrated EMI filtering

ESD, EOS, lightning surge protection, EMI filtering and interface conditioning



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Content

ESD protection: IEC 61000-4-2/MIL STD 883G-Method 3015-7

GENERAL-PURPOSE ESD PROTECTION

Part number	Number of protected lines	Breakdown voltage V_{BR} @ I_R = 1 mA	Capacitance (C_{line}) @ 0 V bias	IEC 61000-4-2 contact/air	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Junction temperature (T_j)	Package	Package size
		min (V)	typ (pF)	(kV)	(V)	max (µA)	max (°C)		(mm)
Unidirectional clamping arrays									
ESDAXLC6-1MY2	1	6	0.35 max	> 8	3	0.1	150	SOD-882	0.6 x 1.0
ESDALC6-1U2	1	6.1	12	> 8	3	0.1	150	ST0201	0.3 x 0.6
ESDAVLC6-1V2(*)	1	6	7.5	> 12/15	3	0.05	150	ST01005	0.2 x 0.4
ESDAVLC14-1V2(*)	1	14	7.5	> 12/15	12	0.1	150	ST01005	0.2 x 0.4
ESDAULC6-1U2	1	6	0.8	> 8/15	3	0.1	150	ST0201	0.3 x 0.6
ESDALC6V1-1M2	1	6.1	22	> 8/15	3	0.1	125	SOD-882	0.6 x 1.0
ESDA8V2-1J	1	8.2	210	> 8/15	5	0.5	125	SOD-323	1.25 x 2.5
ESDA8V2-1MX2	1	8.2	350	> 8/15	5	0.5	125	µQFN 2L	1.0 x 1.45
ESDALC12-1T2	1	12	15	> 8/15	10	0.2	125	SOD-882T	0.6 x 1.0
ESDAVLC14-1U2	1	14.2	6	> 8/15	3	0.1	125	ST0201	0.3 x 0.6
ESDA18-1F2	1	16	230	> 8/15	10	0.5	125	Flip-Chip 500 µm	0.92 x 0.92
ESDA18-1F4(*)	1	16	120	> 8/15	12	0.02	125	Flip-Chip 300 µm	0.64 x 0.64
ESDA12-1K	1	12	200	> 8/15	10	0.5	150	SOD523	0.8 x 1.6
ESDA18-1K	1	18	200	> 8/15	16	0.5	150	SOD523	0.8 x 1.6
ESDALC6V1M3	2	6.1	11	> 8/15	5	0.5	125	SOT883	0.6 x 1.0
ESDA25W	2	25	65	> 8/15	24	1	125	SOT323-3L	2.0 x 2.1
ESDA5V3L	2	5.3	220	> 8/15	3	2	150	SOT-23	2.4 x 2.95
ESDA6V1L	2	6.1	140	> 8/15	5.25	20	150	SOT-23	2.4 x 2.95
ESDA14V2L	2	14.2	90	> 8/15	12	5	150	SOT-23	2.4 x 2.95
ESDA25L	2	25	50	> 8/15	24	1	150	SOT-23	2.4 x 2.95
ESDALCL6-2SC6	2	6	2.5	> 8/15	1	0.001	125	SOT23-6L	2.8 x 2.9

GENERAL-PURPOSE ESD PROTECTION

Part number	Number of protected lines	Breakdown voltage V_{BR} @ I_R = 1 mA	Capacitance (C_{line}) @ 0 V bias	IEC 61000-4-2 contact/air	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Junction temperature (T_j)	Package	Package size
		min (V)	typ (pF)	(kV)	(V)	max (µA)	max (°C)		(mm)
ESDA5V3SC5	4	5.3	280	> 8/15	3	2	150	SOT23-5L	2.8 x 2.9
ESDA5V3SC6	4	5.3	280	> 8/15	3	2	150	SOT23-6L	2.8 x 2.9
ESDALC6V1P5	4	6.1	12	> 8/15	3	0.1	150	SOT-665	1.6 x 1.6
ESDALC6V1P6	4	6.1	12	> 8/15	3	0.1	150	SOT-666	1.6 x 1.6
ESDALC6V1W5	4	6.1	12	> 8/15	3	0.1	150	SOT323-5L	2.0 x 2.1
ESDALC6-4N4	4	6.1	9.5	> 8/15	3	0.1	150	µQFN-4L	0.8 x 1.0
ESDALCL6-4P6A	4	6	2.5	> 8/15	1	0.001	150	SOT-666	1.6 x 1.6
ESDA6V1P6	4	6.1	70	> 8/15	3	0.5	150	SOT-666	1.6 x 1.6
ESDA6V1W5	4	6.1	90	> 8/15	3	1	125	SOT323-5L	2.0 x 2.1
ESDA6V1SC5	4	6.1	190	> 8/15	5.25	20	150	SOT23-5L	2.8 x 2.9
ESDA6V1SC6	4	6.1	190	> 8/15	5.25	20	150	SOT23-6L	2.8 x 2.9
ESDA14V2SC5	4	14.2	100	> 8/15	12	5	150	SOT23-5L	2.8 x 2.9
ESDA14V2SC6	4	14.2	100	> 8/15	12	5	150	SOT23-6L	2.8 x 2.9
ESDA19SC6	4	19	80	> 8/15	15	0.1	125	SOT23-6L	2.8 x 2.9
ESDA25W5	4	25	30	> 8/15	24	1	125	SOT323-3L	2.0 x 2.1
ESDA25SC6	4	25	60	> 8/15	24	1	150	SOT23-6L	2.8 x 2.9
ESDALC6-5T6	5	6.1	7	> 8/15	3	0.1	150	µQFN-6L	1.0 x 1.0
ESDA6V1-5T6	5	6.1	12	> 8/15	3	0.1	125	µDFN 6L	1.0 x 1.0
ESDALC6V1-5M6	5	6.1	12	> 8/15	3	0.07	125	µQFN-6L	1.0 x 1.45
ESDALC6V1-5P6	5	6.1	12	> 8/15	3	0.07	125	SOT-666	1.6 x 1.6
ESDALC6V1-5T6	5	6.1	12	> 8/15	3	0.1	125	µDFN 6L	1.0 x 1.0
ESDA6V1-5SC6	5	6.1	50	> 8/15	3	1	150	SOT23-6L	2.8 x 2.9
ESDA6V1-5W6	5	6.1	50	> 8/15	3	1	125	SOT323-6L	2.0 x 2.1
ESDA6V1-5M6	5	6.1	70	> 8/15	3	0.5	125	µQFN-6L	1.0 x 1.45

GENERAL-PURPOSE ESD PROTECTION

Part number	Number of protected lines	Breakdown voltage V_{BR} @ I_R = 1 mA	Capacitance (C_{line}) @ 0 V bias	IEC 61000-4-2 contact/air	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Junction temperature (T_j)	Package	Package size
		min (V)	typ (pF)	(kV)	(V)	max (µA)	max (°C)		(mm)
ESDA6V1-5P6	5	6.1	70	> 8/15	3	0.5	150	SOT-666	1.6 x 1.6
ESDA17-5SC6	5	17	35	> 8/15	14	0.075	125	SOT23-6L	2.8 x 2.9
ESDA6V1U1	6	6.1	100	> 8/15	5	2	125	SO-8	4.9 x 6.0
ESDAULC6-8F3	8	6	1	> 8/16	3	0.1	85	Flip-Chip 400 µm	1.2 x 1.2
ESDA6V1S3	18	6.1	120	> 8/15	5	2	150	SO-20	12.8 x 10.3
Bidirectional clamping arrays									
ESDARF01-1BF4	1	0.6	3	> 8/15	0.1	0.3	125	ST0201	0.3 x 0.6
ESDARF01-1BM2	1	0.7	3	> 8/15	0.1	1	125	SOD-882	0.6 x 1.0
ESDAVLC6-1BF4	1	6	6	> 8/15	3	0.1	85	ST0201	0.3 x 0.6
ESDALC5-1BF4	1	5.8	10	> 8/15	5	0.1	150	ST0201	0.3 x 0.6
ESDA5-1BF4	1	5.8	45	> 8/15	5	0.1	150	ST0201	0.3 x 0.6
ESDAXLC4-1BF3	1	4	0.35	> 8/8	3	0.1	125	ST0302	0.5 x 0.69
ESDALC5-1BM2	1	5	27	> 8/15	5	0.1	125	SOD-882	0.6 x 1.0
ESDALCL5-1BM2	1	5	26	> 8/15	1	0.001	150	SOD-882	0.6 x 1.1
ESDALC5-1BT2	1	5	27	> 8/15	5	0.0	125	Thin SOD-882	0.6 x 1.0
ESDARF03-1BF3	1	6	0.6	> 8/15	3	1	125	Flip-Chip 400 µm	0.82 x 0.82
ESDALC6V1-1BU2	1	6.1	0.2	> 8/15	3	0.1	125	ST0201	0.3 x 0.6
ESDAVLC6-1BV2	1	6	7.5	> 12/15	3	0.05	150	ST01005	0.2 x 0.4
ESDAXLC6-1BU2	1	6.1	5	> 8/15	6	0.1	125	ST0201	0.3 x 0.6
ESDAXLC6-1BT2	1	6	0.4	> 8/15	6	0.07	150	SOD-882	0.6 x 1.0
ESDARF02-1BU2	1	6	0.24	> 8/15	3	0.07	150	ST0201	0.3 x 0.6
ESDAVLC8-1BM2	1	8.5	4.5	> 8/15	3	0.05	125	SOD-882	0.6 x 1.0
ESDAVLC8-1BT2	1	8.5	4.5	> 8/15	3	0.05	125	Thin SOD-882	0.6 x 1.0
ESDAVLC8-1BU2	1	8.5	5	> 8/15	3	0.1	125	ST0201	0.3 x 0.6

GENERAL-PURPOSE ESD PROTECTION

Part number	Number of protected lines	Breakdown voltage V_{BR} @ I_R = 1 mA	Capacitance (C_{line}) @ 0 V bias	IEC 61000-4-2 contact/air	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Junction temperature (T_j)	Package	Package size
		min (V)	typ (pF)	(kV)	(V)	max (µA)	max (°C)		(mm)
ESDALC8-1BF4	1	7	30	> 8/15	6	0.05	150	ST0201	0.3 x 0.6
ESDAVLC8-4BN4	4	8.5	4.5	> 8/15	3	0.05	150	µQFN-4L	0.8 x 1.0
ESDAVLC5-4BX4(*)	4	5.5	10	> 8/15	3	0.05	150	µQFN-4L	0.8 x 0.8
ESDALC14-1BF4	1	14	22	> 8/15	12	0.1	150	ST0201	0.3 x 0.6
ESDA14V2-1BF3	1	14.2	10	> 8/15	12	0.5	125	Flip-Chip 400 µm	0.5 x 0.69
ESDA14V2-2BF3	2	14.2	12	> 8/15	12	0.5	125	Flip-Chip 400 µm	0.77 x 0.77
ESDAULC6-3BP6	3	6	1	> 8/15	5	0.5	150	SOT-666	1.6 x 1.6
ESDALC5-4BN4	4	5.5	13	> 8/15	5	0.06	125	µQFN-4L	0.8 x 1.0
ESDA6V1BC6	4	6.1	20	> 8/15	5	1	150	SOT23-6L	2.8 x 2.9
ESDA6V1-4BC6	4	6.1	45	> 8/15	3	1	150	SOT23-6L	2.8 x 2.9
ESDA14V2BP6	4	14.2	20	> 8/15	12	1	125	SOT-666	1.6 x 1.6
ESDA14V2-4BF3	4	14.2	15 (max)	> 8/15	12	0.5	125	Flip-Chip 400 µm	0.935 x 0.935
ESDA14V2-4BF2	4	14.2	15	> 8/15	12	1	125	Flip-Chip 500 µm	1.12 x 1.12
ESDA25-4BP6	4	25	22	> 8/15	24	1	150	SOT-666	1.6 x 1.6
ESDA25B1	6	25	15	> 8/15	24	2	150	SO-8	4.9 x 6.0

(*) New products, available Q4/2013

RAIL-TO-RAIL PROTECTION

Part number	Directionality	Number of protected lines	Forward voltage V_F @ 50 mA	Capacitance (C) @ 0 V bias	IEC 61000-4-2 contact/air	Stand-off voltage (V_{RM})	Leakage current (I_R) @ V_R = 15 V	Junction temperature (T_j)	Package	Package size
			max (V)	max (pF)	(kV)	(V)	max (µA)	max (°C)		(mm)
DA108S1RL	Unidirectional	4	1.2	35	> 8/15	18	2	150	SO-8	4.9 x 6.0
DALC208SC6	Unidirectional	4	1.2	7	> 8/15	9	1	150	SOT23-6L	2.8 x 2.9
DA112S1RL	Unidirectional	6	1.2	35	> 8/15	18	2	150	SO-8	4.9 x 6.0
DALC112S1	Unidirectional	6	1.3	7	> 6/8	18	2	150	SO-8	4.9 x 6.0
DALC112S1RL	Unidirectional	6	1.3	7	> 6/8	18	2	150	SO-8	4.9 x 6.0

USB PORT PROTECTION

Part number	Directionality	Number of protected lines	Breakdown voltage V_{BR} @ I_R = 1 mA	Bandwidth @ -3 dB	Capacitance (C_{line}) I/O to Gnd	Capacitance (C_{line}) I/O to I/O	IEC 61000-4-2 contact/air	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Junction temperature (T_j)	Package	Package size
			min (V)	(GHz)	typ (pF)	typ (pF)	(kV)	(V)	max (µA)	max (°C)		(mm)
USBULC6-2M6	Unidirectional	2	6	6	0.95	0.5	> 8/15	5	0.5	150	µQFN-6L	1.0 x 1.45
USBULC6-2P6	Unidirectional	2	6	5.3	1.0	0.5	> 8/15	5	0.5	125	SOT-666	1.6 x 1.6
USBLC6-2SC6	Unidirectional	2	6	3	2.5	1.2	> 8/15	5	1	125	SOT23-6L	2.8 x 2.9
USBLC6-2P6	Unidirectional	2	6	3	2.5	1.2	> 8/15	5	1	125	SOT-666	1.6 x 1.6
USBULC6-2N4	Unidirectional	2	6	6	0.6	-	> 8/15	3	0.1	150	µQFN-4L	1.0 x 0.8
USBULC6-2F3	Unidirectional	2	6	4	1.2 (max)	-	> 8/15	3	0.1	125	Flip-Chip 400 µm	0.82 x 0.82
USBULC6-3F3	Unidirectional	3	4	8.5	1		> 8/15	3	0.1	125	Flip-Chip 400 µm	0.82 x 0.82
USBLC6-4SC6	Unidirectional	4	6	0.8	3	1.85	> 8/15	5	2	125	SOT23-6L	2.8 x 2.9
USB6B1RL	Unidirectional	4	6	-	15	25	> 8/15	5.25	10	150	SO-8	4.9 x 6.0
USBP01-5M8	Bidirectional	4 + Vbus	6	10	0.2	0.2	> 8/15	3	0.07	150	µQFN-8L	1.7 x 1.35

HIGH-SPEED PORT PROTECTION

Part number	Directionality	Number of protected lines	Breakdown voltage V_{BR} @ I_R = 1 mA	Bandwidth @ -3 dB	Capacitance (C_{line}) I/O to Gnd	Capacitance (C_{line}) I/O to I/O	IEC 61000-4-2 contact/air	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Junction temperature (T_j)	Package	Package size
			min (V)	(GHz)	typ (pF)	typ (pF)	(kV)	(V)	max (µA)	max (°C)		(mm)
DVIULC6-4SC6	Unidirectional	4	6	5.2	0.85	0.42	> 8/15	5	0.5	125	SOT23-6L	2.8 x 2.9
HDMIULC6-4SC6	Unidirectional	4	6	5.2	0.85	0.42	> 8/15	5	0.5	125	SOT23-6L	2.8 x 2.9
HDMIULC6-4F3	Unidirectional	4	6	7	0.7	0.05	> 8/15	3	0.1	125	Flip-Chip 400 µm	1.1 x 1.6
DSILC6-4P6	Unidirectional	4	6	2.2	2	1.0	> 8/15	5	0.5	125	SOT-666	1.6 x 1.6
DSILC6-4F2	Unidirectional	4	6	2.3	2.5	1.25	> 8/15	5	0.5	125	Flip-Chip 500 µm	1.57 x 1.1
DSILC6-4SC6	Unidirectional	4	6	0.83	4.1	2.1	> 8	5	0.5	125	SOT23-6L	2.8 x 2.9
HSP061-2M6	Unidirectional	2	6	5.9	0.85	0.42	> 8/15	5	0.5	125	µQFN-6L	1.0 x 1.45
HSP061-2P6	Unidirectional	2	6	5.3	0.6	0.42	> 8/15	5	0.5	125	SOT-666	1.6 x 1.6
HSP062-2M6	Unidirectional	2	6	4.8	0.8	0.55	> 8/15	5	0.5	125	µQFN-6L	1.0 x 1.45
HSP062-2P6	Unidirectional	2	6	4.6	0.8	0.55	> 8/15	5	0.5	125	SOT-666	1.6 x 1.6
HSP061-2N4	Unidirectional	2	6	6	0.6	0.3	> 8/15	3	0.1	150	µQFN-4L	1.0 x 0.8
HSP061-4NY8	Unidirectional	4	6	6	0.5	-	> 8	5	0.1	150	µQFN 2x1-8L	2.0 x 1.0
HSP061-4M10	Unidirectional	4	6	8.7	0.6	0.3	> 8/15	3	0.07	150	µDFN-10L	2.5 x 1.0
HSP051-4M10(*)	Unidirectional	4	6	8.7	0.5	0.3	> 8/15	3	0.07	150	µDFN-10L	2.5 x 1.0
HSP051-4N10(*)	Unidirectional	4	6	8.7	0.5	0.3	> 8/15	3	0.07	150	µDFN-10L	1.9 x 1.0
HSP051-6BM14(*)	Bidirectional	6	6	8.7	0.5	0.3	> 8/15	3	0.07	150	µDFN-14L	3.5 x 1.35
HSP051-7N16(*)	Unidirectional	7	6	8.7	0.5	0.3	> 8/15	3	0.07	150	µDFN-16L	3.1 x 1.2
HSP061-8M16	Unidirectional	8	6	6.3	0.6	-	> 8/15	5	0.5	150	µDFN-16L	3.3 x 1.5

(*) New products, available in Q4/2013

Integrated EMI filtering and ESD protection (IPAD™)

AUDIO AND VIDEO IPAD™ (EMI FILTERS WITH ESD PROTECTION)

Part number	Target interface type	Number of lines	Package	Pin count	Attenuation @ frequency	Bandwidth (@ -3 dB)	Breakdown voltage (V_{BR})	Filter resistance (FR)
					(dB)	(MHz)	min (V)	typ (Ω)
EMIF01-SMIC01F2	Microphones	1	Flip-Chip 500 µm	8	-52 dB @ 900 MHz	1.5	14	2200
EMIF01-TV01F3	TV analog outputs	1	Flip-Chip 400 µm	5	-28 dB @ 900 MHz	110	6	75
EMIF01-TV02F3	TV analog outputs	1	Flip-Chip 400 µm	5	-40 dB @ 900 MHz	80	6	75
EMIF02-AV01F3	Audio and video interfaces	2	Flip-Chip 400 µm	5	-35 dB @ 900 MHz	0.04	14	15
EMIF02-MIC02F2	Microphones	2	Flip-Chip 500 µm	5	-30 dB @ 900 MHz	180	14	470
EMIF02-MIC02F3	Microphones	2	Flip-Chip 400 µm	5	-30 dB @ 900 MHz	300	14	470
EMIF02-MIC03F2	Microphones	2	Flip-Chip 500 µm	5	-40 dB @ 900 MHz	50	6	68
EMIF02-MIC03M6	Microphones	2	uQFN-6L	6	-33 dB @ 900 MHz	100	6	68
EMIF02-MIC06F3	Microphones	2	Flip-Chip 400 µm	8	-46 dB @ 900 MHz	0.04	14	2200
EMIF02-MIC07F3	Microphones	2	Flip-Chip 400 µm	8	-68 dB @ 900 MHz	0.03	6	2200
EMIF02-SPK01F2	Speakers	2	Flip-Chip 500 µm	5	-33 dB @ 900 MHz	20	6	10
EMIF02-SPK01M6	Speakers	2	uQFN-6L	6	-29 dB @ 900 MHz	28	6	10
EMIF02-SPK02F2	Speakers	2	Flip-Chip 500 µm	5	-40 dB @ 900 MHz	20	6	0.35
EMIF02-SPK03F2	Speakers	2	Flip-Chip 500 µm	5	-40 dB @ 900 MHz	20	6	0.07
EMIF04-EAR02M8	Earphones and microphones	2+2	uQFN-8L	8	-30 dB @ 900 MHz	70	7	0.3
EMIF05-AUD01F3	Audio	5	Flip-Chip 400 µm	12	-33 dB @ 900 MHz	1	6	15
EMIF08-0156F7	Audio	8	Flip-Chip 350 µm	20	-40 dB @ 2.4 GHz	0.3	6	-
HDMI05-CL01F3	HDMI	5	Flip-Chip 400 µm	8	-7 dB @ 900 MHz	-	14	-
HDMI05-CL02F3	HDMI	5	Flip-Chip 400 µm	8	-5 dB @ 900 MHz	-	6	-

COMPUTER AND CONSUMER IPAD™ (EMI FILTERS WITH ESD PROTECTION)

Part number	Target interface type	Number of lines	Package	Pin count	Attenuation @ frequency	Bandwidth (@ -3 dB)	Breakdown voltage (V_{BR})	Filter resistance (FR)	Line capacitance (C_{line})	Additional function
					(dB)	(MHz)	min (V)	typ (Ω)	max (pF)	
HDMI2C1-5DIJ	HDMI control lines	5	DFN-16L	16	See 'IPAD™ for HDMI ports' page 38					Signal conditioning
HDMI2C1-6C1	HDMI control lines	6	QFN-18L	18	See 'IPAD™ for HDMI ports' page 38					Signal conditioning
HDMI2C1-14HD	HDMI 1.4 source	14	QFN-36L	36	-	6500	6	See 'IPAD™ for HDMI ports' page 38		Signal conditioning
HDMI2C2-14HD	HDMI 1.4 sink	14	QFN-36L	36	-	6500	6	See 'IPAD™ for HDMI ports' page 38		Signal conditioning
KBMF	Keyboards	2	SOT-23 6L	6	-30 dB @ 500 MHz	20	6	39	144	Termination and R pull-up
ST1284	IEEE 1284	17	QSOP 28	28	-25 dB @ 200 MHz	25	6	33	264	Termination and R pull-up
USBUF01P6	USB1.1	2	SOT-666	6	-25 dB @ 900 MHz	110	6	33	56	R pull-up

DISPLAY, CAMERA AND KEYPAD IPAD™

Serial interface camera and display IPAD (common-mode filters with ESD protection)

Part number	Target interface type	Number of lines	Package	Pin count	Common-mode attenuation (S_{CC21}) @ frequency	Breakdown voltage (V_{BR})	Filter resistance (FR)
					(dB)	min (V)	typ (Ω)
ECFM02-2AMX6	MIPI, HDMI 30 fps, MHL	2	µQFN-6L	6	-34 dB @ 900 MHz	6	3
ECMF02-2BF3	DisplayPort, MIPI, HDMI 60 fps, MHL	2	Flip-Chip 400 µm	5	-25 dB @ 900 MHz	6	2.5
ECMF02-2HSMX6	DisplayPort, MIPI, HDMI 60 fps	2	µQFN-6L	3	-25 dB @ 900 MHz -40 dB @ 1200 MHz -20 dB @ 2400 MHz	6	7
ECMF02-3HSM6	DisplayPort, MIPI, HDMI 60 fps, MHL	2	µQFN-6L	6	-33 dB @ 900 MHz	6	5
ECMF04-4AMX12	MIPI, HDMI 30 fps	4	µQFN-12L	12	-35 dB @ 900 MHz	6	1.8
ECMF04-4HSM10	DisplayPort, MIPI, HDMI 60 fps	4	µQFN-10L	10	-33 dB @ 900 MHz	6	5
ECMF06-6AM16	MIPI, HDMI 30 fps	6	µQFN-16L	16	-24 dB @ 900 MHz	6	2.7
ECMF06-6HSM16	DisplayPort, MIPI, HDMI 60 fps	6	µQFN-16L	16	-33 dB @ 900 MHz	6	5

fps: frames per second

DISPLAY, CAMERA AND KEYPAD IPAD™

Parallel interface display and camera IPAD, keypad IPAD (EMI filters with ESD protection)

Part number	Filter type	Number of lines	Package	Pin count	Attenuation @ frequency	Bandwidth (@ -3 dB)	Breakdown voltage (V_{BR})	Filter resistance (FR)	Line capacitance (C_{line})
					(dB)	(MHz)	min (V)	typ (Ω)	max (pF)
EMIF04-1005M8	RC filter	4	µQFN-8L	8	-35 dB @ 900 MHz	110	6	100	52
EMIF04-1502M8	RC filter	4	µQFN-8L	8	-25 dB @ 900 MHz	210	6	170	16.5
EMIF05-SK01F3	RC filter	5	Flip-Chip 400 µm	11	-35 dB @ 900 MHz	300	6	4700	1200
EMIF06-1005M12	RC filter	6	µQFN-12L	12	-35 dB @ 900 MHz	110	6	100	52
EMIF06-1005N12	RC filter	6	µQFN-12L	12	-35 dB @ 900 MHz	110	6	100	52
EMIF06-1502M12	RC filter	6	µQFN-12L	12	-25 dB @ 900 MHz	210	6	170	16.5
EMIF06-VID01F2	RC filter	6	Flip-Chip 500 µm	12	-40 dB @ 900 MHz	160	6	100	19
EMIF07-LCD02F3	RC filter	7	Flip-Chip 400 µm	19	-25 dB @ 900 MHz	200	6	70	30
EMIF08-0402T16	RC filter	8	µQFN-16L	16	-22 dB @ 2 GHz	350	14	40	20
EMIF08-1005M16	RC filter	8	µQFN-16L	16	-35 dB @ 900 MHz	110	6	100	52
EMIF08-1005T16	RC filter	8	µQFN-16L	16	-35 dB @ 900 MHz	110	6	100	50
EMIF08-1502M16	RC filter	8	µQFN-16L	16	-30 dB @ 900 MHz	210	6	170	16.5
EMIF08-LCD04M16	LC filter	8	µQFN-16L	16	-35 dB @ 900 MHz	400	6	12.5	19
EMIF08-VID01F2	RC filter	8	Flip-Chip 500 µm	19	-33 dB @ 900 MHz	160	6	100	19
EMIF10-1K010F2	RC filter	10	Flip-Chip 500 µm	23	-25 dB @ 900 MHz	35	6	1000	120
EMIF10-COM01F2	RC filter	10	Flip-Chip 500 µm	23	-37 dB @ 900 MHz	120	6	200	50
EMIF10-LCD02F3	RC filter	10	Flip-Chip 400 µm	25	-23 dB @ 900 MHz	200	6	70	30

MEMORY AND SIM CARD IPAD™ (EMI FILTERS WITH ESD PROTECTION)

Part number	Interface type	Number of lines	Package	Pin count	Attenuation @ frequency	Bandwidth (@ -3 dB)	Breakdown voltage (V_{BR})	Filter resistance (FR1)	Filter resistance (FR2)	Line capacitance (C_{line})
					(dB)	(MHz)	min (V)	typ (Ω)	typ (Ω)	max (pF)
EMIF03-SIM01F2	SIM cards	3	Flip-Chip 500 µm	8	-35 dB @ 900 MHz	120	6	100	47	35
EMIF03-SIM02F2	SIM cards	3	Flip-Chip 500 µm	8	-22 dB @ 900 MHz	200	6	100	47	20
EMIF03-SIM02F3	SIM cards	3	Flip-Chip 400 µm	8	-19 dB @ 900 MHz	200	6	100	47	20
EMIF03-SIM02M8	SIM cards	3	µQFN-8L	8	-18 dB @ 900 MHz	280	6	100	47	20
EMIF03-SIM03F3	SIM cards	3	Flip-Chip 400 µm	8	-15 dB @ 900 MHz	350	14	100	47	12
EMIF03-SIM04F3	SIM cards	3	Flip-Chip 400 µm	12	-12 dB @ 900 MHz	400	6	100	47	12
EMIF03-SIM05F3	SIM cards with SWP (NFC)	4	Flip-Chip 400 µm	8	-12 dB @ 900 MHz	300	6	47	47	3
EMIF03-SIM06F3	SIM cards with SWP (NFC) with USB interchip	3	Flip-Chip 400 µm	11	-12 dB @ 900 MHz	400	6	100	47	12
EMIF06-HMC01F2	Mini- and micro-SD cards	6	Flip-Chip 500 µm	12	-19 dB @ 900 MHz	280	14	50	-	20
EMIF06-MSD02N16	Mini- and micro-SD cards	6	µQFN-16L	16	-18 dB @ 900 MHz	350	5	45	-	20
EMIF06-MSD03F3	Mini- and micro-SD cards	6	Flip-Chip 400 µm	12	-15 dB @ 2 GHz	550	14	40	-	9
EMIF06-MSD04F3	Mini- and micro-SD cards	6	Flip-Chip 400 µm	12	-15 dB @ 2 GHz	550	14	40	-	9
EMIF06-HSD03F3	Mini- and micro-SD cards	6	Flip-Chip 400 µm	17	-20 dB @ 900 MHz	300	5	10	-	2.5
EMIF06-SD03F3	Mini- and micro-SD cards	6	Flip-Chip 400 µm	26	-21 dB @ 900 MHz	150	14	40	-	20
EMIF06-mSD01F2	Mini- and micro-SD cards	6	Flip-Chip 500 µm	12	-14 dB @ 900 MHz	300	14	40	-	20
EMIF06-mSD02C3	Mini- and micro-SD cards	6	Flip-Chip 400 µm	12	-14 dB @ 900 MHz	300	14	40	-	20
EMIF09-SD01F3	Mini- and micro-SD cards	9	Flip-Chip 400 µm	25	-16 dB @ 900 MHz	300	14	40	-	20

STANDARD MULTILINE BUS IPAD™ (EMI FILTERS WITH ESD PROTECTION)

Part number	Number of lines	Package	Pin count	Attenuation @ frequency	Bandwidth (@ -3 dB)	Breakdown voltage (V_{BR})	Filter resistance (FR)	Line capacitance (C_{line})
				(dB)	(MHz)	min (V)	typ (Ω)	max (pF)
EMIF01-10005W5	2	SOT323-5L	5	-25 dB @ 900 MHz	150	6	100	50
EMIF01-1003M3	1	SOT-883	3	-27 dB @ 900 MHz	180	5	100	39
EMIF02-1003M6	2	µQFN-6L	6	-25 dB @ 900 MHz	180	5	100	39
EMIF04-1005M8	4	µQFN-8L	8	-35 dB @ 900 MHz	110	6	100	52
EMIF04-1502M8	4	µQFN-8L	8	-25 dB @ 900 MHz	210	6	170	16.5
EMIF06-10006C2	6	Flip-Chip 500 µm	12	-38 dB @ 900 MHz	80	6	100	70
EMIF06-1002F2	6	Flip-Chip 500 µm	12	-19 dB @ 900 MHz	280	6	100	13.8
EMIF06-1005M12	6	µQFN-12L	12	-35 dB @ 900 MHz	110	6	100	52
EMIF06-1502M12	6	µQFN-12L	12	-25 dB @ 900 MHz	210	6	170	16.5
EMIF08-1005M16	8	µQFN-16L	16	-35 dB @ 900 MHz	110	6	100	52
EMIF08-1502M16	8	µQFN-16L	16	-30 dB @ 900 MHz	210	6	170	16.5
EMIF08-1005T16	8	µQFN-16L	16	-35 dB @ 900 MHz	110	6	100	50

USB IPAD™ (COMMON-MODE AND EMI FILTERS, WITH ESD PROTECTION)

Part number	Filter type	Interface type	Number of lines	Package	Pin count	Attenuation @ frequency	Breakdown voltage (V_{BR})	Filter resistance (FR1)	Filter resistance (FR2)	Line capacitance (C_{line})
						(dB)	min (V)	typ (Ω)	typ (Ω)	max (pF)
ECMF02-2AMX6	Common-mode filter	USB 2.0 and MIPI	2	µQFN-6L	6	-34 dB @ 900 MHz	6	2.5	-	-
ECMF02-2HSMX6	Common-mode filter	USB3.0	2	µQFN-6L	6	-25 dB @ 900 MHz -40 dB @ 1200 MHz -20 dB @ 2400 MHz	6	7	-	-
ECMF02-2BF3	Common-mode filter	USB2.0	2	Flip-Chip 400 µm	5	-25 dB @ 900 MHz	6	3	-	-
ECMF02-3F3	Common-mode filter	USB2.0	3	Flip-Chip 400 µm	6	-28 dB @ 900 MHz	6	3.4	-	-
ECMF02-3HSM6	Common-mode filter	USB3.0	2	µQFN-6L	6	-33 dB @ 900 MHz	6	6	5	-
ECMF02-4CMX8	Common-mode filter	USB2.0	4	µQFN-8L	8	-27 dB @ 900 MHz	6	3	-	-
ECMF04-4HSM10	Common-mode filter	USB3.0	4	µQFN-10L	10	-33 dB @ 900 MHz	6	6	-	-
ECMF04-6HSM16	Common-mode filter	USB3.0	6	µQFN-16L	16	-33 dB @ 900 MHz	6	6	-	-
EMIF02-USB01F2	EMI filter with R pull-up	USB1.1	2	Flip-Chip 500 µm	8	-25 dB @ 900 MHz	6	33	-	45
EMIF02-USB03F2	EMI filter with R pull-up	USB1.1	2	Flip-Chip 500 µm	11	-14 dB @ 900 MHz	14	33	-	20
EMIF02-USB04F3	EMI filter	USB1.1	3	Flip-Chip 400 µm	8	-12 dB @ 900 MHz	7	33	-	20
EMIF02-USB05F2	EMI filter with R pull-up	USB1.1	2	Flip-Chip 500 µm	8	-20 dB @ 900 MHz	6	33	-	35
USBDF01W5	EMI filter with R pull-up	USB1.1	2	SOT323-5L	5	-25 dB @ 900 MHz	6	33	-	56
USBDF02W5	EMI filter with R pull-up	USB1.1	2	SOT323-5L	5	-25 dB @ 900 MHz	6	15	-	56
USBUF01W6	EMI filter with R pull-up	USB1.1	2	SOT323-6L	6	-28 dB @ 900 MHz	6	33	33	56
USBUF02W6	EMI filter with R pull-up	USB1.1	2	SOT323-6L	6	-28 dB @ 900 MHz	6	22	33	56
USBUF01P6	EMI fiter with R pull-up	USB1.1	2	SOT-666	6	-25 dB @ 900 MHz	6	33	-	56

ECMF™ SERIES (COMMON-MODE FILTERS WITH ESD PROTECTION)

Part number	Interface type	Number of lines	Package	Pin count	Attenuation @ frequency	Breakdown voltage (V_{BR})	Filter resistance (FR)
					(dB)	min (V)	typ (Ω)
ECMF02-2AMX6	USB2.0, HDMI 30 fps, MIPI	2	µQFN-6L	6	-34 dB @ 900 MHz	6	1.8
ECMF02-2BF3	USB2.0, HDMI 30 fps, MIPI, MHL	2	Flip-Chip 400 µm	5	-25 dB @ 900 MHz	6	3
ECMF02-2HSMX6	USB3.0 specific, DisplayPort, MHL, MIPI, HDMI 60 fps	2	µQFN-6L	6	-25 dB @ 900 MHz -40 dB @ 1200 MHz	6	7
ECMF02-3F3	USB2.0	3	Flip-Chip 400 µm	6	-28 dB @ 900 MHz	6	3.4
ECMF02-3HSM6	USB2.0, USB3.0, HDMI 60 fps, MIPI, MHL	2	µQFN-6L	6	-33 dB @ 900 MHz	6	5
ECMF02-4CMX8	USB2.0 specific with integrated VBUS 16, V EOS protection	4	µQFN-8L	8	-27 dB @ 900 MHz	6	3
ECMF04-4AMX12	MIPI	4	µQFN-12L	12	-35 dB @ 900 MHz	6	1.8
ECMF04-4HSM10	MIPI, DisplayPort, USB3.0, HDMI 60 fps	4	µQFN-10L	10	-33 dB @ 900 MHz	6	5
ECMF06-6AM16	MIPI	6	µQFN-16L	16	-24 dB @ 900 MHz	6	2.7
ECMF06-6HSM16	MIPI, DisplayPort, USB3.0, HDMI 60 fps	6	µQFN-16L	16	-33 dB @ 900 MHz	6	5

fps: frames per second

HIGH-CAPACITANCE DENSITY IPAD™ (EMI FILTERS WITH ESD PROTECTION)

Part number	Target interface type	Number of lines	Package	Attenuation @ frequency	Pin count	Bandwidth (@ -3 dB)	Breakdown voltage (V_{BR})	Filter resistance (FR)
				(dB)		(MHz)	min (V)	typ (Ω)
EMIF01-SMIC01F2	Microphones	1	Flip-Chip 500 µm	-52 dB @ 900 MHz	8	1.5	14	2200
EMIF02-AV01F3	Audio and video	2	Flip-Chip 400 µm	-35 dB @ 900 MHz	5	0.04	14	15
EMIF02-MIC06F3	Microphones	2	Flip-Chip 400 µm	-46 dB @ 900 MHz	8	0.04	14	2200
EMIF08-0156F7	Audio	8	Flip-Chip 350 µm	-25 dB @ 900 MHz	20	0.3	6	-

EOS 8/20 µs surge protection: IEC 61000-4-5/IEC 61000-4-4/IEC 61000-4-2

DATALINE PROTECTION: SURGE CURRENT ≤ 24 A

Low forward voltage Transil™

Part number	Directionality	Peak pulse power (P_{PP}) 8/20 µs	Peak pulse current I_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breakdown voltage V_{BR} @ I_R		Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Capacitance (C_{line}) @ 0 V bias	Junction temperature (T_j)	Package
		(W)	max (A)	(V)	max (µA)	min (V)	(mA)	max (V)	(A)	typ (pF)	max (°C)	
LFTVS10-1F3	Unidirectional	350	-	8	0.5	10	15	13	1	200	125	Flip-Chip 400 µm
LFTVS18-1F3	Unidirectional	350	5	10	0.5	18	1	19	1	130	125	Flip-Chip 400 µm
ESDA18-1F2	Unidirectional	700	20	12	0.1	16	1	20	1	230	125	Flip-Chip 500 µm
ESDA18-1F4(*)	Unidirectional	350	13	12	0.1	16	1	20	1	120	125	Flip-Chip 300 µm
ESDA12-1K	Unidirectional	500	16	10	0.1	12	1	28	1	150	125	SOD523
ESDA18-1K	Unidirectional	500	12	16	0.1	16	1	34	1	150	125	SOD523
ESDA8V2-1J	Unidirectional	500	24	6	0.1	8	1	20	24	150	125	SOD523

(*) New products, available in Q4-2013

Part number	Directionality	Peak pulse power (P_{PP}) 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breakdown voltage V_{BR} @ I_R		Forward voltage V_F @ 1 A	Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Junction temperature (T_j)	Package
		(W)	(V)	max (µA)	(V)	(mA)	max (V)	max (V)	(A)	max (°C)	
400 W low forward voltage Transils											
SMTY18AM	Unidirectional	400	16	4000	18	1	0.42	20	1	150	STmite
SMTYF18A	Unidirectional	400	16	100	18	1	0.42	22	20	150	Stmite flat
4000 W low forward voltage Transils											
SMTYF5.0A	Unidirectional	4000	5	10	6.4	10	0.48	13.4	298	175	SMA flat
SMTYF12A	Unidirectional	4000	12	20	13.2	1	0.48	22.9	157	175	SMA flat

Automation sensor tripolar protection

Part number	Directionality	Number of protected lines	Peak pulse current (P_{PP}) 8/20 µs @ 25 °C	IEC 61000-4-5 R = 500 Ω	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breakdown voltage V_{BR} @ I_R			Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Junction temperature (T_j)	Package
			max (A)	(kV)	(V)	max (µA)	min (V)	typ (V)	(mA)	max (V)	(A)	max (°C)	
SPT01-335DEE	Unidirectional	3	2	1	36	1	38	41.4	1	46	2	175	QFN 3x3
SPT02-236DDB	Unidirectional	2	2	1	36	1	38	41.4	1	46	2	150	QFN 3.3x1.5

POWER LINE PROTECTION: SURGE CURRENT ≥ 24 A

24 A: Power-over-Ethernet protection

Part number	Directionality	Number of protected lines	Peak pulse power (P_{PP}) 8/20 µs	Peak pulse current I_{PP} 8/20 µs @ 25 °C	Peak pulse current I_{PP} 8/20 µs @ 150 °C	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breakdown voltage V_{BR} @ I_R		Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Capacitance (C_{line}) @ 0 V bias	Package
			(W)	max (A)	max (A)	(V)	max (µA)	min (V)	(mA)	max (V)	(A)	typ (pF)	
PEP01-5841	Unidirectional	4	2700	24	15	58	4000	64.4	1	100	24	55	SO-8

24 A: Ethernet dataline protection

Part number	Directionality	Number of protected lines	Peak pulse power (P_{PP}) 8/20 µs	Peak pulse current I_{PP} 8/20 µs @ 25 °C	Peak pulse current I_{PP} 8/20 µs @ 150 °C	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Capacitance (C_{line}) @ 0 V bias	Junction temperature (T_j)	Package
			(W)	max (A)	max (A)	(V)	max (µA)	max (V)	(mA)	typ (pF)	max (°C)	
SLVU2.8-4A1	Unidirectional	4	600	30	24	2.8	0.2	15	24	1.5	150	SO-8
SLVU2.8-8A1	Unidirectional	8	600	30	24	2.8	0.2	15	24	3	150	SO-8

40 A: Industrial dataline protection

Part number	Directionality	Number of protected lines	Peak pulse power (P_{PP}) 8/20 µs	Peak pulse current I_{PP} 8/20 µs @ 25 °C	Peak pulse current I_{PP} 8/20 µs @ 150 °C	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breakdown voltage V_{BR} @ 1 mA	Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		IEC 61000-4-2	Junction temperature (T_j)	Package
			(W)	max (A)	max (A)	(V)	max (µA)	(V)	max (V)	(A)	(kV)	max (°C)	
ITA6V5B1RL	Bidirectional	4	300	40	25	5	10	6.5	12	25	15	125	SO-8
ITA6V1U1RL	Unidirectional	6	300	40	25	5	10	6.1	12	25	15	125	SO-8
ITA10B1RL	Bidirectional	4	300	40	25	8	4	10	19	25	15	125	SO-8
ITA18B1RL	Bidirectional	4	300	40	25	15	4	18	29	25	15	125	SO-8
ITA25B1RL	Bidirectional	4	300	40	25	24	4	25	38	25	15	125	SO-8
ITA6V5B3RL	Bidirectional	8	300	40	25	5	10	6.5	12	25	15	125	SO-20
ITA18B3RL	Bidirectional	8	300	40	25	15	4	18	29	25	15	125	SO-20
ITA25B3RL	Bidirectional	8	300	40	25	24	4	25	38	25	15	125	SO-20

Low-noise block (LNB) voltage regulator protection

Part number	Directionality	IEC 61000-4-5 R = 12 Ω	Peak pulse current I_{PP} 8/20 µs @ 25 °C	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breakdown voltage V_{BR} @ I_R				Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs R = 12 Ω		Package
		(kV)	max (A)	(V)	max (µA)	min (V)	typ (V)	max (V)	(mA)	max (V)	(A)	
LNBTVS3-220U	Unidirectional	3	250	20	1	22	23.1	24.2	1	35	250	SMB
LNBTVS4-220S	Unidirectional	4	334	20	1	22	23.1	24.2	1	35	334	SMC
LNBTVS4-221S	Unidirectional	4	334	20	1	22	23.1	24.2	1	32	334	SMC
LNBTVS4-222S	Unidirectional	4	334	20	1	22	23.1	24.2	1	30	334	SMC
LNBTVS6-220S	Unidirectional	6	500	20	1	22	23.1	24.2	1	35	500	SMC
LNBTVS6-221S	Unidirectional	6	500	20	1	22	23.1	24.2	1	32	500	SMC
LNBTVS4-304S	Unidirectional	0.75 (1)	334	28	1	30	31.5	33	1	45	334 (1)	SMC
LNBTVS6-304S	Unidirectional	1 (1)	500	28	1	30	31.5	33	1	45	500 (1)	SMC

(1) IEC 61000-4-5 R = 2 Ω

500 A, 8/20 µs: IEC 61000-4-5 protection

Part number	Directionality	Peak pulse power (P_{PP}) 8/20 µs	Peak pulse current I_{PP} 8/20 µs @ 25 °C	Peak pulse current I_{PP} 8/20 µs @ 150 °C	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breakdown voltage V_{BR} @ I_R		Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Junction temperature (Tj)	Package
		(W)	max (A)	max (A)	(V)	max (µA)	min (V)	(mA)	max (V)	(A)	max (°C)	
STIEC45-24AS	Unidirectional	21	500	410	24	0.2	26.7	1	42	500	150	SMC
STIEC45-26AS	Unidirectional	23	500	410	26	0.2	28.9	1	45	500	150	SMC
STIEC45-27AS	Unidirectional	24	500	410	27	0.2	30	1	47	500	150	SMC
STIEC45-28AS	Unidirectional	25	500	410	28	0.2	31.1	1	49	500	150	SMC
STIEC45-30AS	Unidirectional	28	500	410	30	0.2	33.3	1	55	500	150	SMC
STIEC45-33AS	Unidirectional	30	500	410	33	0.2	36.7	1	59	500	150	SMC

EOS 10/10000 µs surge protection

GENERAL-PURPOSE TVS

100 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/10000 µs 25 °C	Peak pulse power P_{PP} 10/10000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakdown voltage V_{BR} @ I_R		Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Junction temperature (T_j)	Package
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min (V)	(mA)	max (V)	(A)	max (°C)	
SMX1J7.5A-TR		85	78	800	7.5	1	2	8.2	1	20	40	150	µQFN-2L

400 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/10000 µs 25 °C	Peak pulse power P_{PP} 10/10000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakdown voltage V_{BR} @ I_R		Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Junction temperature (T_j)	Package
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min (V)	(mA)	max (V)	(A)	max (°C)	
SMAJ series													
SMAJ5.0A-TR	SMAJ5.0CA-TR	400	270	2200	5	20	50	6.4	10	13.4	174	150	SMA
SMAJ6.0A-TR	SMAJ6.0CA-TR	400	270	2200	6	20	50	6.7	10	13.7	170	150	SMA
SMAJ6.5A-TR	SMAJ6.5CA-TR	400	270	2200	6.5	20	50	7.2	10	14.5	160	150	SMA
SMAJ8.5A-TR	SMAJ8.5CA-TR	400	270	2200	8.5	20	50	9.4	1	19.5	124	150	SMA
SMAJ10A-TR	SMAJ10CA-TR	400	270	2200	10	0.2	1	11.1	1	21.7	106	150	SMA
SMAJ12A-TR	SMAJ12CA-TR	400	270	2200	12	0.2	1	13.3	1	25.3	91	150	SMA
SMAJ13A-TR	SMAJ13CA-TR	400	270	2200	13	0.2	1	14.4	1	27.2	85	150	SMA
SMAJ15A-TR	SMAJ15CA-TR	400	270	2200	15	0.2	1	16.7	1	32.5	71	150	SMA
SMAJ18A-TR	SMAJ18CA-TR	400	270	2200	18	0.2	1	20	1	39.3	59	150	SMA
SMAJ20A-TR	SMAJ20CA-TR	400	270	2200	20	0.2	1	22.2	1	42.8	54	150	SMA
SMAJ22A-TR	SMAJ22CA-TR	400	270	2200	22	0.2	1	24.4	1	48.3	48	150	SMA

400 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/10000 µs 25 °C	Peak pulse power P_{PP} 10/10000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakdown voltage V_{BR} @ I_R		Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Junction temperature (T_j)	Package
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min (V)	(mA)	max (V)	(A)	max (°C)	
SMAJ24A-TR	SMAJ24CA-TR	400	270	2200	24	0.2	1	26.7	1	50	46	150	SMA
SMAJ26A-TR	SMAJ26CA-TR	400	270	2200	26	0.2	1	28.9	1	53.5	43	150	SMA
SMAJ28A-TR	SMAJ28CA-TR	400	270	2200	28	0.2	1	31.1	1	59	39	150	SMA
SMAJ30A-TR	SMAJ30CA-TR	400	270	2200	30	0.2	1	33.3	1	64.3	36	150	SMA
SMAJ33A-TR	SMAJ33CA-TR	400	270	2200	33	0.2	1	36.7	1	69.7	33	150	SMA
SMAJ40A-TR	SMAJ40CA-TR	400	270	2200	40	0.2	1	44.4	1	84	27	150	SMA
SMAJ43A-TR	SMAJ43CA-TR	400	270	2200	43	0.2	1	47.8	1	91	25	150	SMA
SMAJ48A-TR	SMAJ48CA-TR	400	270	2200	48	0.2	1	53.3	1	100	23	150	SMA
SMAJ58A-TR	SMAJ58CA-TR	400	270	2200	58	0.2	1	64.4	1	121	19	150	SMA
SMAJ70A-TR	SMAJ70CA-TR	400	270	2200	70	0.2	1	77.8	1	146	16	150	SMA
SMAJ85A-TR	SMAJ85CA-TR	400	270	2200	85	0.2	1	94.4	1	178	13	150	SMA
SMAJ130A-TR	SMAJ130CA-TR	400	270	2200	130	0.2	1	144	1	265	9	150	SMA
SMAJ154A-TR	SMAJ154CA-TR	400	270	2200	154	0.2	1	171	1	317	7	150	SMA
SMAJ170A-TR	SMAJ170CA-TR	400	270	2200	170	0.2	1	189	1	353	6.5	150	SMA
SMAJ188A-TR	SMAJ188CA-TR	400	270	2200	188	0.2	1	209	1	388	6	150	SMA
High junction temperature SMM4F and SMA4F series													
SMM4F5.0A-TR		400	200	2200	5	10	50	6.46	10	13.3	174	175	STMiteFlat
SMM4F6.0A-TR		400	200	2200	6	10	50	6.65	10	13.7	170	175	STMiteFlat
SMM4F6.5A-TR		400	200	2200	6.5	10	50	7.13	10	14.5	160	175	STMiteFlat
SMM4F8.5A-TR		400	200	2200	8.5	10	50	9.5	1	19.5	124	175	STMiteFlat
SMM4F10A-TR		400	200	2200	10	0.2	1	11.4	1	21.7	106	175	STMiteFlat
SMM4F12A-TR		400	200	2200	12	0.2	1	13.3	1	25.3	91	175	STMiteFlat

400 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/10000 µs 25 °C	Peak pulse power P_{PP} 10/10000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakdown voltage V_{BR} @ I_R		Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Junction temperature (T_j)	Package
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min (V)	(mA)	max (V)	(A)	max (°C)	
SMM4F13A-TR		400	200	2200	13	0.2	1	14.3	1	27.2	85	175	STMiteFlat
SMM4F15A-TR		400	200	2200	15	0.2	1	17.1	1	32.5	71	175	STMiteFlat
SMM4F18A-TR		400	200	2200	18	0.2	1	20.9	1	39.3	59	175	STMiteFlat
SMM4F20A-TR		400	200	2200	20	0.2	1	22.8	1	42.8	54	175	STMiteFlat
SMM4F24A-TR		400	200	2200	24	0.2	1	26.6	1	50	46	175	STMiteFlat
SMM4F26A-TR		400	200	2200	26	0.2	1	28.5	1	53.5	43	175	STMiteFlat
SMM4F28A-TR		400	200	2200	28	0.2	1	31.4	1	59	39	175	STMiteFlat
SMM4F33A-TR		400	200	2200	33	0.2	1	37.1	1	69.7	33	175	STMiteFlat
SMA4F5.0A-TR		400	200	2200	5	10	50	6.4	10	13.4	174	175	SMAflat
High junction temperature BZW04 series (*)													
BZW04-5V8	BZW04-5V8B	400	220	2200	5.8	1000	-	6.45	10	13.4	174	175	DO-15
BZW04-10	BZW04-10B	400	220	2200	10.2	5	-	11.4	1	21.7	106	175	DO-15
BZW04-13	BZW04-13B	400	220	2200	12.8	5	-	14.3	1	27.2	85	175	DO-15
BZW04-15	BZW04-15B	400	220	2200	15.3	1	-	17.1	1	32.5	71	175	DO-15
BZW04-26	BZW04-26B	400	220	2200	25.6	1	-	28.5	1	53.5	43	175	DO-15
BZW04-28	BZW04-28B	400	220	2200	28.2	1	-	31.4	1	59.0	39	175	DO-15
BZW04-31	BZW04-31B	400	220	2200	30.8	1	-	34.2	1	64.3	36	175	DO-15
BZW04-33	BZW04-33B	400	220	2200	33.3	1	-	37.1	1	69.7	33	175	DO-15
BZW04-48	BZW04-48B	400	220	2200	47.8	1	-	53.2	1	100	23	175	DO-15
BZW04-70	BZW04-70B	400	220	2200	70	1	-	77.9	1	146	16	175	DO-15
BZW04-239	BZW04-239B	400	220	2200	239	1	-	266	1	494	4.6	175	DO-15
BZW04-299	BZW04-299B	400	220	2200	299	1	-	332	1	618	3.7	175	DO-15

400 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/10000 µs 25 °C	Peak pulse power P_{PP} 10/10000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakdown voltage V_{BR} @ I_R		Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Junction temperature (T_j)	Package
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min (V)	(mA)	max (V)	(A)	max (°C)	
BZW04-342	BZW04-342B	400	220	2200	342	1	-	380	1	706	3.2	175	DO-15
BZW04-376	BZW04-376B	400	220	2200	376	1	-	418	1	776	3.0	175	DO-15

(*) I_{RM} given at 25 °C

600 W Transil™ (TVS)

Part number	Peak pulse power (P_{PP}) 10/1000 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breakdown voltage V_{BR} @ I_R		Clamping voltage (V_{CL}) @ I_{PP} 10/1000 µs		Forward voltage V_F @ 1 A	Junction temperature (T_j)	Package
Unidirectional	(W)	(V)	max (µA)	min (V)	(mA)	max (V)	(A)	max (V)	max (°C)	
Low forward voltage series										
SMTY5.0A	600	5	10	6.4	10	9	43.5	0.48	150	SMA
SMTY12A	600	12	20	13.2	1	18.5	31	0.48	150	SMA

600 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakdown voltage V_{BR} @ I_R			Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Junction temperature (T_j)	Package
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min (V)	typ (V)	(mA)	max (V)	(A)	max (°C)	
SM6T series														
SM6T6V8A	SM6T6V8CA	600	515	4000	5.8	20	50	6.45	6.8	10	13.4	298	150	SMB
SM6T7V5A	SM6T7V5CA	600	515	4000	6.4	20	50	7.13	7.5	10	14.5	276	150	SMB
SM6T10A	SM6T10CA	600	515	4000	8.55	20	50	9.5	10	1	18.6	215	150	SMB
SM6T12A	SM6T12CA	600	515	4000	10.2	0.2	1	11.4	12	1	21.7	184	150	SMB
SM6T15A	SM6T15CA	600	515	4000	12.8	0.2	1	14.3	15	1	27.2	147	150	SMB
SM6T18A	SM6T18CA	600	515	4000	15.3	0.2	1	17.1	18	1	32.5	123	150	SMB
SM6T22A	SM6T22CA	600	515	4000	18.8	0.2	1	20.9	22	1	39.3	102	150	SMB
SM6T24A	SM6T24CA	600	515	4000	20.5	0.2	1	22.8	24	1	42.8	93	150	SMB
SM6T27A	SM6T27CA	600	515	4000	23.1	0.2	1	25.7	27	1	48.3	83	150	SMB
SM6T30A	SM6T30CA	600	515	4000	25.6	0.2	1	28.5	30	1	53.5	75	150	SMB
SM6T33A	SM6T33CA	600	515	4000	28.2	0.2	1	31.4	33	1	59	68	150	SMB
SM6T36A	SM6T36CA	600	515	4000	30.8	0.2	1	34.2	36	1	64.3	62	150	SMB
SM6T39A	SM6T39CA	600	515	4000	33.3	0.2	1	37.1	39	1	69.7	57	150	SMB
SM6T56A	SM6T56CA	600	515	4000	47.6	0.2	1	53.2	56	1	100	40	150	SMB
SM6T68A	SM6T68CA	600	515	4000	58.1	0.2	1	64.6	68	1	121	33	150	SMB
SM6T100A	SM6T100CA	600	515	4000	85.5	0.2	1	95	100	1	178	22.5	150	SMB
SM6T150A	SM6T150CA	600	515	4000	128	0.2	1	143	150	1	265	15	150	SMB
SM6T200A	SM6T200CA	600	515	4000	171	0.2	1	190	200	1	353	11.3	150	SMB
SM6T220A	SM6T220CA	600	515	4000	188	0.2	1	209	220	1	388	10.3	150	SMB

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakdown voltage V_{BR} @ I_R		Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Junction temperature (T_j)	Package
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	typ (V)	(mA)	max (V)	(A)	max (°C)	
High junction temperature P6KE series													
P6KE6V8A	P6KE6V8CA	600	330	4000	5.8	10	6.45	6.8	10	13.4	298	175	DO-15
P6KE7V5A	P6KE7V5CA	600	330	4000	6.4	10	7.13	7.5	10	14.5	276	175	DO-15
P6KE10A	P6KE10CA	600	330	4000	8.55	1	9.5	10	1	18.6	215	175	DO-15
P6KE12A	P6KE12CA	600	330	4000	10	0.5	11.4	12	1	21.7	184	175	DO-15
P6KE15A	P6KE15CA	600	330	4000	12.8	0.5	14.3	15	1	27.2	147	175	DO-15
P6KE18A	P6KE18CA	600	330	4000	15.3	0.5	17.1	18	1	32.5	123	175	DO-15
P6KE24A	P6KE24CA	600	330	4000	20	0.5	22.8	24	1	42.8	93	175	DO-15
P6KE27A	P6KE27CA	600	330	4000	23.1	0.5	25.7	27	1	48.3	83	175	DO-15
P6KE30A	P6KE30CA	600	330	4000	25.6	0.5	28.5	30	1	53.5	75	175	DO-15
P6KE33A	P6KE33CA	600	330	4000	28.2	0.5	31.4	33	1	59	68	175	DO-15
P6KE36A	P6KE36CA	600	330	4000	30.8	0.5	34.2	36	1	64.3	62	175	DO-15
P6KE39A	P6KE39CA	600	330	4000	33.3	0.5	37.1	39	1	69.7	57	175	DO-15
P6KE47A	P6KE47CA	600	330	4000	40	0.5	44.7	47	1	84	48	175	DO-15
P6KE56A	P6KE56CA	600	330	4000	47.8	0.5	53.2	56	1	100	40	175	DO-15
P6KE68A	P6KE68CA	600	330	4000	58.1	0.5	64.6	68	1	121	33	175	DO-15
P6KE82A	P6KE82CA	600	330	4000	70.1	0.5	77.9	82	1	146	27	175	DO-15
P6KE150A	P6KE150CA	600	330	4000	128	0.5	143	150	1	265	15	175	DO-15
P6KE180A	P6KE180CA	600	330	4000	154	0.5	171	180	1	317	12.6	175	DO-15
P6KE200A	P6KE200CA	600	330	4000	171	0.5	190	200	1	353	11.3	175	DO-15
P6KE220A	P6KE220CA	600	330	4000	188	0.5	209	220	1	388	10.3	175	DO-15
P6KE250A	P6KE250CA	600	330	4000	213	0.5	237	250	1	442	9	175	DO-15

600 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakdown voltage V_{BR} @ I_R		Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Junction temperature (T_j)	Package
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	typ (V)	(mA)	max (V)	(A)	max (°C)	
P6KE300A	P6KE300CA	600	330	4000	256	0.5	285	300	1	529	7.6	175	DO-15
P6KE400A	P6KE400CA	600	330	4000	342	0.5	380	400	1	706	5.7	175	DO-15
P6KE440A	P6KE440CA	600	330	4000	376	0.5	418	440	1	776	5.2	175	DO-15

600 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakdown voltage V_{BR} @ I_R		Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Junction temperature (T_j)	Package
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min (V)	(mA)	max (V)	(A)	max (°C)	
SMBJ series													
SMLVT3V3		600	330	2000	3.3	200	-	4.1	1	10.3	200	150	SMB
SMBJ5.0A-TR	SMBJ5.0CA-TR	600	515	4000	5	20	50	6.4	10	13.4	298	150	SMB
SMBJ6.0A-TR	SMBJ6.0CA-TR	600	515	4000	6	20	50	6.7	10	13.7	290	150	SMB
SMBJ6.5A-TR	SMBJ6.5CA-TR	600	515	4000	6.5	20	50	7.2	10	14.5	276	150	SMB
SMBJ8.5A-TR	SMBJ8.5CA-TR	600	515	4000	8.5	10	9.4	9.9	1	19.5	205	150	SMB
SMBJ10A-TR	SMBJ10CA-TR	600	515	4000	10	20	50	11.1	1	21.7	184	150	SMB
SMBJ12A-TR	SMBJ12CA-TR	600	515	4000	12	0.2	1	13.3	1	25.3	157	150	SMB
SMBJ13A-TR	SMBJ13CA-TR	600	515	4000	13	0.2	1	14.4	1	27.2	147	150	SMB
SMBJ15A-TR	SMBJ15CA-TR	600	515	4000	15	0.2	1	16.7	1	32.5	123	150	SMB
SMBJ16A-TR	SMBJ16CA-TR	600	515	4000	16	0.2	17.8	18.7	1	32.5	123	150	SMB
SMBJ18A-TR	SMBJ18CA-TR	600	515	4000	18	0.2	1	20	1	39.3	102	150	SMB
SMBJ20A-TR	SMBJ20CA-TR	600	515	4000	20	0.2	22.2	23.4	1	42.8	93	150	SMB

600 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakdown voltage V_{BR} @ I_R		Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Junction temperature (T_j)	Package
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min (V)	(mA)	max (V)	(A)	max (°C)	
SMBJ22A-TR	SMBJ22CA-TR	600	515	4000	22	0.2	1	24.4	1	48.3	83	150	SMB
SMBJ24A-TR	SMBJ24CA-TR	600	515	4000	24	0.2	1	26.7	1	50	80	150	SMB
SMBJ26A-TR	SMBJ26CA-TR	600	515	4000	26	0.2	1	28.9	1	53.5	75	150	SMB
SMBJ28A-TR	SMBJ28CA-TR	600	515	4000	28	0.2	1	31.1	1	59	68	150	SMB
SMBJ30A-TR	SMBJ30CA-TR	600	515	4000	30	0.2	1	33.3	1	64.3	62	150	SMB
SMBJ33A-TR	SMBJ33CA-TR	600	515	4000	33	0.2	1	36.7	1	69.7	57	150	SMB
SMBJ36A-TR	SMBJ36CA-TR	600	515	4000	36	0.2	1	40	1	76	52	150	SMB
SMBJ40A-TR	SMBJ40CA-TR	600	515	4000	40	0.2	1	44.4	1	84	48	150	SMB
SMBJ48A-TR	SMBJ48CA-TR	600	515	4000	48	0.2	1	53.3	1	100	40	150	SMB
SMBJ58A-TR	SMBJ58CA-TR	600	515	4000	58	0.2	1	64.4	1	121	33	150	SMB
SMBJ70A-TR	SMBJ70CA-TR	600	515	4000	70	0.2	1	77.8	1	146	27	150	SMB
SMBJ85A-TR	SMBJ85CA-TR	600	515	4000	85	0.2	1	94.4	1	178	22.5	150	SMB
SMBJ100A-TR	SMBJ100CA-TR	600	515	4000	100	0.2	111	117	1	212	19	150	SMB
SMBJ130A-TR	SMBJ130CA-TR	600	515	4000	130	0.2	1	144	1	265	15	150	SMB
SMBJ154A-TR	SMBJ154CA-TR	600	515	4000	154	0.2	1	171	1	317	12.6	150	SMB
SMBJ170A-TR	SMBJ170CA-TR	600	515	4000	170	0.2	1	189	1	353	11.3	150	SMB
SMBJ188A-TR	SMBJ188CA-TR	600	515	4000	188	0.2	1	209	1	388	10.3	150	SMB

600 W Transil™ (TVS)

Part number	Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breakdown voltage V_{BR} @ I_R		Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Junction temperature (T_j)	Package
Unidirectional	(W)	(W)	(W)	(V)	max (µA)	min (V)	(mA)	max (V)	(A)	max (°C)	
SMBJ series											
SMBF5.0A-TR	600	300	4000	5	800	6.4	10	13.4	298	150	SMB flat
SMBF13A-TR	600	300	4000	13	0.2	14.4	1	27.2	147	150	SMB flat

High junction temperature 600 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakdown voltage V_{BR} @ I_R		Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Junction temperature (T_j)	Package
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min (V)	(mA)	max (V)	(A)	max (°C)	
SMA6J series													
SMA6J5.0A-TR	SMA6J5.0CA-TR	600	300	4000	5	10	50	6.4	10	13.4	298	175	SMA
SMA6J6.0A-TR	SMA6J6.0CA-TR	600	300	4000	6	10	50	6.7	10	13.7	290	175	SMA
SMA6J6.5A-TR	SMA6J6.5CA-TR	600	300	4000	6.5	10	50	7.2	10	14.5	276	175	SMA
SMA6J8.5A-TR	SMA6J8.5CA-TR	600	300	4000	8.5	10	50	9.4	1	18.7	205	175	SMA
SMA6J10A-TR	SMA6J10CA-TR	600	300	4000	10	0.2	1	11.1	1	19.6	184	175	SMA
SMA6J12A-TR	SMA6J12CA-TR	600	300	4000	12	0.2	1	13.3	1	23.5	157	175	SMA
SMA6J13A-TR	SMA6J13CA-TR	600	300	4000	13	0.2	1	14.4	1	23.9	147	175	SMA
SMA6J15A-TR	SMA6J15CA-TR	600	300	4000	15	0.2	1	16.7	1	27.7	123	175	SMA
SMA6J18A-TR	SMA6J18CA-TR	600	300	4000	18	0.2	1	20	1	33.2	102	175	SMA
SMA6J20A-TR	SMA6J20CA-TR	600	300	4000	20	0.2	1	22.2	1	36.8	93	175	SMA
SMA6J24A-TR	SMA6J24CA-TR	600	300	4000	24	0.2	1	26.7	1	44.3	80	175	SMA
SMA6J26A-TR	SMA6J26CA-TR	600	300	4000	26	0.2	1	28.9	1	47.9	75	175	SMA
SMA6J28A-TR	SMA6J28CA-TR	600	300	4000	28	0.2	1	31.1	1	51.6	68	175	SMA

High junction temperature 600 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakdown voltage V_{BR} @ I_R		Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Junction temperature (T_j)	Package
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min (V)	(mA)	max (V)	(A)	max (°C)	
SMA6J33A-TR	SMA6J33CA-TR	600	300	4000	33	0.2	1	36.7	1	60.8	57	175	SMA
SMA6J40A-TR	SMA6J40CA-TR	600	300	4000	40	0.2	1	44.4	1	73.6	48	175	SMA
SMA6J48A-TR	SMA6J48CA-TR	600	300	4000	48	0.2	1	53.3	1	88.4	40	175	SMA
SMA6J58A-TR	SMA6J58CA-TR	600	300	4000	58	0.2	1	64.4	1	100	33	175	SMA
SMA6J70A-TR	SMA6J70CA-TR	600	300	4000	70	0.2	1	77.8	1	120	27	175	SMA
SMA6J85A-TR	SMA6J85CA-TR	600	300	4000	85	0.2	1	94	1	146	22.5	175	SMA
SMA6J100A-TR	SMA6J100CA-TR	600	300	4000	100	0.2	1	111	1	172	19	175	SMA
SMA6J130A-TR	SMA6J130CA-TR	600	300	4000	130	0.2	1	144	1	223	15	175	SMA
SMA6J154A-TR	SMA6J154CA-TR	600	300	4000	154	0.2	1	171	1	265	12.6	175	SMA
SMA6J170A-TR	SMA6J170CA-TR	600	300	4000	170	0.2	1	189	1	292	11.3	175	SMA
SMA6J188A-TR	SMA6J188CA-TR	600	300	4000	188	0.2	1	209	1	323	10.3	175	SMA
High junction temperature SMA6F series													
SMA6F5.0A-TR		600	300	4000	5	10	50	6.4	10	13.4	298	175	SMAflat
SMA6F12AVCL		600	300	4000	12	0.2	1	13.3	1	22.9	157	175	SMAflat
SMA6F13A-TR		600	300	4000	13	0.2	1	14.4	1	23.9	147	175	SMAflat
High junction temperature BZW06 series (1)													
BZW06-5V8	BZW06-5V8B	600	330	4000	5.8	1000	-	6.45	10	13.4	298	175	DO-15
BZW06-6V4	BZW06-6V4B	600	330	4000	6.4	500	-	7.13	10	14.5	276	175	DO-15
BZW06-10	BZW06-10B	600	330	4000	10.2	5	-	11.4	1	21.7	184	175	DO-15
BZW06-13	BZW06-13B	600	330	4000	12.8	5	-	14.3	1	27.2	147	175	DO-15
BZW06-15	BZW06-15B	600	330	4000	15.3	1	-	17.1	1	32.5	123	175	DO-15
BZW06-19	BZW06-19B	600	330	4000	18.8	1	-	20.9	1	39.3	102	175	DO-15

High junction temperature 600 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakdown voltage V_{BR} @ I_R		Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Junction temperature (T_j)	Package
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min (V)	(mA)	max (V)	(A)	max (°C)	
BZW06-23	BZW06-23B	600	330	4000	23.1	1	-	25.7	1	48.3	83	175	DO-15
BZW06-26	BZW06-26B	600	330	4000	25.6	1	-	28.5	1	53.5	75	175	DO-15
BZW06-28	BZW06-28B	600	330	4000	28.2	1	-	31.4	1	59.0	68	175	DO-15
BZW06-31	BZW06-31B	600	330	4000	30.8	1	-	34.2	1	64.3	62	175	DO-15
BZW06-33	BZW06-33B	600	330	4000	33.3	1	-	37.1	1	69.7	57	175	DO-15
BZW06-48	BZW06-48B	600	330	4000	47.8	1	-	53.2	1	100	40	175	DO-15
BZW06-273	BZW06-273B	600	330	4000	273	1	-	304	1	564	7.1	175	DO-15
BZW06-342	BZW06-342B	600	330	4000	342	1	-	380	1	706	5.7	175	DO-15
BZW06-376	BZW06-376B	600	330	4000	376	1	-	418	1	776	5.7	175	DO-15

(1) I_{RM} given at 25 °C

1500 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakdown voltage V_{BR} @ I_R			Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Junction temperature (T_j)	Package
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min (V)	typ (V)	(mA)	max (V)	(A)	max (°C)	
SM15T series														
SM5908		1500	825	-	5	300	-	6	-	1	8.5	120	175	SMC
SM15T6V8A	SM15T6V8CA	1500	1250	10000	5.8	500	2000	6.45	6.8	10	13.4	746	150	SMC
SM15T7V5A	SM15T7V5CA	1500	1250	10000	6.4	250	1000	7.13	7.5	10	14.5	690	150	SMC
SM15T10A	SM15T10CA	1500	1250	10000	8.55	10	50	9.5	10	1	18.6	538	150	SMC
SM15T12A	SM15T12CA	1500	1250	10000	10.2	0.2	1	11.4	12	1	21.7	461	150	SMC
SM15T15A	SM15T15CA	1500	1250	10000	12.8	0.2	1	14.3	15	1	27.2	368	150	SMC
SM15T18A	SM15T18CA	1500	1250	10000	15.3	0.2	1	17.1	18	1	32.5	308	150	SMC
SM15T22A	SM15T22CA	1500	1250	10000	18.8	0.2	1	20.9	22	1	39.3	254	150	SMC
SM15T24A	SM15T24CA	1500	1250	10000	20.5	0.2	1	22.8	24	1	42.8	234	150	SMC
SM15T27A	SM15T27CA	1500	1250	10000	23.1	0.2	1	25.7	27	1	48.3	207	150	SMC
SM15T30A	SM15T30CA	1500	1250	10000	25.6	0.2	1	28.5	30	1	53.5	187	150	SMC
SM15T33A	SM15T33CA	1500	1250	10000	28.2	0.2	1	31.4	33	1	59	169	150	SMC
SM15T36A	SM15T36CA	1500	1250	10000	30.8	0.2	1	34.2	36	1	64.3	156	150	SMC
SM15T39A	SM15T39CA	1500	1250	10000	33.3	0.2	1	37.1	39	1	69.7	143	150	SMC
SM15T68A	SM15T68CA	1500	1250	10000	58.1	0.2	1	64.6	68	1	121	83	150	SMC
SM15T75A	SM15T75CA	1500	1250	10000	64.1	0.2	1	71.3	75	1	134	75	150	SMC
SM15T100A	SM15T100CA	1500	1250	10000	85.5	0.2	1	95	100	1	178	56	150	SMC
SM15T150A	SM15T150CA	1500	1250	10000	128	0.2	1	143	150	1	265	38	150	SMC
SM15T200A	SM15T200CA	1500	1250	10000	171	0.2	1	190	200	1	353	28	150	SMC
SM15T220A	SM15T220CA	1500	1250	10000	188	0.2	1	209	220	1	388	26	150	SMC

1500 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakdown voltage V_{BR} @ I_R		Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Junction temperature (T_j)	Package
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min (V)	(mA)	max (V)	(A)	max (°C)	
SMCJ series													
SMCJ5.0A-TR	SMCJ5.0CA-TR	1500	1250	10000	5	500	2000	6.4	10	13.4	746	150	SMC
SMCJ6.0A-TR	SMCJ6.0CA-TR	1500	1250	10000	6	500	2000	6.7	10	13.7	730	150	SMC
SMCJ6.5A-TR	SMCJ6.5CA-TR	1500	1250	10000	6.5	250	1000	7.2	10	14.5	690	150	SMC
SMCJ8.5A-TR	SMCJ8.5CA-TR	1500	1250	10000	8.5	10	50	9.4	1	19.5	512	150	SMC
SMCJ10A-TR	SMCJ10CA-TR	1500	1250	10000	10	0.2	1	11.1	1	21.7	461	150	SMC
SMCJ12A-TR	SMCJ12CA-TR	1500	1250	10000	12	0.2	1	13.3	1	25.3	394	150	SMC
SMCJ13A-TR	SMCJ13CA-TR	1500	1250	10000	13	0.2	1	14.4	1	27.2	368	150	SMC
SMCJ15A-TR	SMCJ15CA-TR	1500	1250	10000	15	0.2	1	16.7	1	32.5	308	150	SMC
SMCJ18A-TR	SMCJ18CA-TR	1500	1250	10000	18	0.2	1	20	1	39.3	254	150	SMC
SMCJ20A-TR	SMCJ20CA-TR	1500	1250	10000	20	0.2	1	22.2	1	42.8	234	150	SMC
SMCJ22A-TR	SMCJ22CA-TR	1500	1250	10000	22	0.2	1	24.4	1	48.3	207	150	SMC
SMCJ24A-TR	SMCJ24CA-TR	1500	1250	10000	24	0.2	1	26.7	1	50	200	150	SMC
SMCJ26A-TR	SMCJ26CA-TR	1500	1250	10000	26	0.2	1	28.9	1	53.5	187	150	SMC
SMCJ28A-TR	SMCJ28CA-TR	1500	1250	10000	28	0.2	1	31.1	1	59	169	150	SMC
SMCJ30A-TR	SMCJ30CA-TR	1500	1250	10000	30	0.2	1	33.3	1	64.3	156	150	SMC
SMCJ33A-TR	SMCJ33CA-TR	1500	1250	10000	33	0.2	1	36.7	1	69.7	143	150	SMC
SMCJ40A-TR	SMCJ40CA-TR	1500	1250	10000	40	0.2	1	44.4	1	84	119	150	SMC
SMCJ48A-TR	SMCJ48CA-TR	1500	1250	10000	48	0.2	1	53.3	1	100	100	150	SMC
SMCJ58A-TR	SMCJ58CA-TR	1500	1250	10000	58	0.2	1	64.4	1	121	83	150	SMC
SMCJ70A-TR	SMCJ70CA-TR	1500	1250	10000	70	0.2	1	77.8	1	146	69	150	SMC
SMCJ85A-TR	SMCJ85CA-TR	1500	1250	10000	85	0.2	1	94.4	1	178	56	150	SMC

1500 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakdown voltage V_{BR} @ I_R		Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Junction temperature (T_j)	Package
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min (V)	(mA)	max (V)	(A)	max (°C)	
SMCJ130A-TR	SMCJ130CA-TR	1500	1250	10000	130	0.2	1	144	1	265	38	150	SMC
SMCJ154A-TR	SMCJ154CA-TR	1500	1250	10000	154	0.2	1	171	1	317	31.5	150	SMC
SMCJ170A-TR	SMCJ170CA-TR	1500	1250	10000	170	0.2	1	189	1	353	28	150	SMC
SMCJ188A-TR	SMCJ188CA-TR	1500	1250	10000	188	0.2	1	209	1	388	26	150	SMC
High junction temperature 1.5KE series													
1N5908		1500	825	-	5	300	6	-	1	8.5	120	175	DO-201
1.5KE6V8A	1.5KE6V8CA	1500	825	10000	5.8	1000	6.45	6.8	10	13.4	746	175	DO-201
1.5KE7V5A	1.5KE7V5CA	1500	825	10000	6.4	500	7.13	7.5	10	14.5	690	175	DO-201
1.5KE10A	1.5KE10CA	1500	825	10000	8.55	10	9.5	10	1	18.6	538	175	DO-201
1.5KE12A	1.5KE12CA	1500	825	10000	10.2	1	11.4	12	1	21.7	461	175	DO-201
1.5KE15A	1.5KE15CA	1500	825	10000	12.8	1	14.3	15	1	27.2	368	175	DO-201
1.5KE18A	1.5KE18CA	1500	825	10000	15.3	1	17.1	18	1	32.5	308	175	DO-201
1.5KE22A	1.5KE22CA	1500	825	10000	18.8	1	20.9	22	1	39.3	254	175	DO-201
1.5KE24A	1.5KE24CA	1500	825	10000	20.5	1	22.8	24	1	42.8	234	175	DO-201
1.5KE27A	1.5KE27CA	1500	825	10000	23.1	1	25.7	27	1	48.3	207	175	DO-201
1.5KE30A	1.5KE30CA	1500	825	10000	25.6	1	28.5	30	1	53.5	187	175	DO-201
1.5KE33A	1.5KE33CA	1500	825	10000	28.2	1	31.4	33	1	59.0	169	175	DO-201
1.5KE36A	1.5KE36CA	1500	825	10000	30.8	1	34.2	36	1	64.3	156	175	DO-201
1.5KE39A	1.5KE39CA	1500	825	10000	33.3	1	37.1	39	1	69.7	143	175	DO-201
1.5KE43A	1.5KE43CA	1500	825	10000	36.8	1	40.9	43	1	76.8	130	175	DO-201
1.5KE47A	1.5KE47CA	1500	825	10000	40.2	1	44.7	47	1	84	119	175	DO-201
1.5KE56A	1.5KE56CA	1500	825	10000	47.8	1	53.2	56	1	100	100	175	DO-201

1500 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakdown voltage V_{BR} @ I_R		Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Junction temperature (T_j)	Package
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min (V)	(mA)	max (V)	(A)	max (°C)	
1.5KE62A	1.5KE62CA	1500	825	10000	53	1	58.9	62	1	111	90	175	DO-201
1.5KE68A	1.5KE68CA	1500	825	10000	58.1	1	64.6	68	1	121	83	175	DO-201
1.5KE75A	1.5KE75CA	1500	825	10000	64.1	1	71.3	75	1	134	74	175	DO-201
1.5KE82A	1.5KE82CA	1500	825	10000	70.1	1	77.9	82	1	146	69	175	DO-201
1.5KE100A	1.5KE100CA	1500	825	10000	85.5	1	95	100	1	178	56	175	DO-201
1.5KE120A	1.5KE120CA	1500	825	10000	102	1	114	120	1	212	47	175	DO-201
1.5KE130A	1.5KE130CA	1500	825	10000	111	1	124	130	1	230	44	175	DO-201
1.5KE150A	1.5KE150CA	1500	825	10000	128	1	143	150	1	265	38	175	DO-201
1.5KE180A	1.5KE180CA	1500	825	10000	154	1	171	180	1	317	31.5	175	DO-201
1.5KE200A	1.5KE200CA	1500	825	10000	171	1	190	200	1	353	28	175	DO-201
1.5KE220A	1.5KE220CA	1500	825	10000	188	1	209	220	1	388	26	175	DO-201
1.5KE250A	1.5KE250CA	1500	825	10000	213	1	237	250	1	442	23	175	DO-201
1.5KE300A	1.5KE300CA	1500	825	10000	256	1	285	300	1	529	19	175	DO-201
1.5KE350A	1.5KE350CA	1500	825	10000	299	1	332	350	1	618	16	175	DO-201
1.5KE400A	1.5KE400CA	1500	825	10000	342	1	380	400	1	706	14	175	DO-201
1.5KE440A	1.5KE440CA	1500	825	10000	376	1	418	440	1	776	13	175	DO-201

3000 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakdown voltage V_{BR} @ I_R		Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Junction temperature (T_j)	Package
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min (V)	(mA)	max (V)	(A)	max (°C)	
SMC30J series													
SMC30J6.0A	SMC30J6.0CA	3000	2200	28000	6	500	2000	6.7	10	10.3	291	150	SMC
SMC30J6.5A	SMC30J6.5CA	3000	2200	28000	6.5	250	1000	7.2	10	11.2	268	150	SMC
SMC30J8.5A	SMC30J8.5CA	3000	2200	28000	8.5	10	50	9.4	1	14.4	208	150	SMC
SMC30J10A	SMC30J10CA	3000	2200	28000	10	0.2	1	11.1	1	17	176	150	SMC
SMC30J12A	SMC30J12CA	3000	2200	28000	12	0.2	1	13.3	1	19.9	151	150	SMC
SMC30J13A	SMC30J13CA	3000	2200	28000	13	0.2	1	14.4	1	21.5	140	150	SMC
SMC30J15A	SMC30J15CA	3000	2200	28000	15	0.2	1	16.7	1	24.4	123	150	SMC
SMC30J16A	SMC30J16CA	3000	2200	28000	16	0.2	1	17.8	1	26	115	150	SMC
SMC30J18A	SMC30J18CA	3000	2200	28000	18	0.2	1	20	1	29.2	103	150	SMC
SMC30J20A	SMC30J20CA	3000	2200	28000	20	0.2	1	22.2	1	32.4	93	150	SMC
SMC30J22A	SMC30J22CA	3000	2200	28000	22	0.2	1	24.4	1	35.5	85	150	SMC
SMC30J24A	SMC30J24CA	3000	2200	28000	24	0.2	1	26.7	1	38.9	77	150	SMC
SMC30J26A	SMC30J26CA	3000	2200	28000	26	0.2	1	28.9	1	42.1	71	150	SMC
SMC30J28A	SMC30J28CA	3000	2200	28000	28	0.2	1	31.1	1	45.4	66	150	SMC
SMC30J30A	SMC30J30CA	3000	2200	28000	30	0.2	1	33.3	1	48.4	62	150	SMC
SMC30J33A	SMC30J33CA	3000	2200	28000	33	0.2	1	36.7	1	53.3	56	150	SMC

5000 W Transil™ (TVS)

Part number		Peak pulse power (P_{PP}) 10/1000 µs 25 °C	Peak pulse power P_{PP} 10/1000 µs 150 °C	Peak pulse power P_{PP} 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breakdown voltage V_{BR} @ I_R		Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Junction temperature (T_j)	Package
Unidirectional	Bidirectional	(W)	(W)	(W)	(V)	max (µA)	min (V)	(mA)	max (V)	(A)	max (°C)	
High junction temperature BZW50 series												
BZW50-10	BZW50-10B	5000	2750	60000	10	5	11.1	1	23.4	2564	175	R6
BZW50-12	BZW50-12B	5000	2750	60000	12	5	13.3	1	28	2143	175	R6
BZW50-180	BZW50-18B	5000	2750	60000	18	5	20	1	41.5	1446	175	R6
BZW50-22	BZW50-22B	5000	2750	60000	22	5	24.4	1	51	1177	175	R6
BZW50-27	BZW50-27B	5000	2750	60000	27	5	30	1	62	968	175	R6
BZW50-56	BZW50-56B	5000	2750	60000	56	5	62.2	1	129	465	175	R6
BZW50-68	BZW50-68B	5000	2750	60000	68	5	75.6	1	157	382	175	R6
BZW50-82	BZW50-82B	5000	2750	60000	82	5	91	1	189	317	175	R6
BZW50-100	BZW50-100B	5000	2750	60000	100	5	111	1	228	263	175	R6
BZW50-120	BZW50-120B	5000	2750	60000	120	5	133	1	274	219	175	R6
BZW50-150	BZW50-150B	5000	2750	60000	150	5	166	1	343	175	175	R6
BZW50-180	BZW50-180B	5000	2750	60000	180	5	200	1	410	146	175	R6

REPETITIVE VOLTAGE SURGE SUPPRESSORS

Part number	Breakdown voltage V_{BR} @ I_R		Clamping voltage (V_{CL}) @ I_{PP} @ 125 °C		Extrapolated [1] clamping voltage (V_{CLO}) @	Dynamic resistance (R_d)	Leakage current (I_{RM}) @ V_{RM}		αT max 10^{-4}/°C	Junction temperature (T_j)	Package
	min (V)	(mA)	min (V)	(A)	(V)	(Ohm)	max (µA)	(V)		max (°C)	
STRVS118X02C	95	1	118	2	95	1	0.2	85	10.6	150	SMC
STRVS142X02F	114	1	142	2	114	1	1	102	10.7	150	DO-201
STRVS182X02F	143	1	182	2	143	2.5	1	128	10.8	150	DO-201
STRVS185X02B	143	1	185	2	143	3.5	0.2	128	10.8	150	SMB
STRVS185X02E	143	1	185	2	143	3.5	0.2	128	10.8	150	DO-15
STRVS222X02F	171	1	222	2	171	4.5	1	154	10.8	150	DO-201
STRVS225X02E	171	1	225	2	171	5.5	0.5	154	10.8	150	DO-15
STRVS241X02E	190	1	241	2	190	3.5	0.5	171	10.8	150	DO-15
STRVS248X02C	190	1	248	2	190	5	0.5	171	10.8	150	SMC
STRVS252X02F	190	1	252	2	190	6.5	1	171	10.8	150	DO-201
STRVS280X02F	209	1	280	2	209	8.5	1	188	10.8	150	DO-201

(1) Refer to application note AN4209, «Design methodology for repetitive voltage suppressors (RVS) in repetitive mode: STRVS»

LED BYPASS PROTECTION

Part number	Number of LEDs	IEC 61000-4-2 contact/air	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breakover voltage (V_{BO}) @	Holding current (I_H)	Trigger voltage (V_{ON}) @ I_F		Junction temperature (T_j)	Package
		(kV)	(V)	max (µA)	max (V)	(mA)	max (V)	(mA)	max (°C)	
LBP01-0803SC5	1	> 8/15	3	0.1	15	200	1.3	0.35	150	SOT23-5L
LBP01-0810B	1	> 8/15	3	0.1	15	200	1.5	1	150	SMB

AUTOMATION SENSOR TRIPOLAR PROTECTION

Part number Unidirectional	IEC 61000-4-5 R = 500 Ω	Peak pulse current (I_{PP}) 8/20 µs @ 25 °C	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breakover voltage (V_{BR}) @ I_R				Clamping voltage (V_{CL}) @ I_{PP}		Package
	(kV)	max (A)	(V)	max (µA)	min (V)	typ (V)	max (V)	(mA)	max (V)	(A)	
SPT01-335DEE	1	2	36	1	38	41.4	-	1	46	2	QFN 3x3
SPT02-236DDB	1	2	36	1	38	41.4	-	1	46	2	QFN 3.3x1.5

IPAD™ FOR HDMI PORTS

Part number	General description	Number of lines	Package	Interface type	IEC 61000-4-2 ESD protection	TMDS line protection	TMDS C_{line}	Dynamic pull-up on DDC	Stand-by mode wake-up via CEC	HEAC function support
							max (pF)			
HDMI2C1-5DIJ	Signal conditioning and ESD protection for HDMI control line interfaces	5	DFN-16L	Source	Level 4, 8 kV contact	No	-	Yes	Yes	No
HDMI2C1-6C1	Signal conditioning and ESD protection for HDMI control line interfaces	6	QFN-18L	Source	Level 4, 8 kV contact	No	-	Yes	Yes	Yes
HDMI2C1-14HD	Signal conditioning and ESD protection for HDMI control and TMDS line interfaces	14	µQFN-36L	Source	Level 4, 8 kV contact	Yes	1.5	Yes	Yes	Yes
HDMI2C2-14HD	Signal conditioning and ESD protection for HDMI control and TMDS line interfaces	14	µQFN-36L	Sink	Level 4, 8 kV contact	Yes	1.5	Yes	Yes	Yes

Automotive-grade protection devices (AEC-Q101 compliant)

AUTOMOTIVE DATALINE ESD PROTECTION

Unidirectional clamping arrays

Part number	Number of protected lines	ISO 7637-2 pulse compliance	ISO 10605 contact/air	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breakdown voltage V_{BR} @ I_R		Capacitance (C_{line}) @ 0 V bias	Junction temperature (T_j)	Package
			(kV)	(V)	max (µA)	(V)	(mA)	typ (pF)	max (°C)	
ESDALC5-1BT2Y(*)	1	3a, 3b	> 8/15	3	1	5	1	25	150	SOD-882 (0402)
ESDA5V3LY	2	3a, 3b	> 8/15	3	2	5.3	1	220	150	SOT23
ESDA5V3SC6Y	4	3a, 3b	> 8/15	3	2	5.3	1	280	150	SOT23-6L
ESDA6V1LY	2	3a, 3b	> 8/15	5.2	20	6.1	1	140	150	SOT23
ESDA6V1SC6Y	4	3a, 3b	> 8/15	5.2	20	6.1	1	190	150	SOT23-6L
ESDA14V2LY	2	1, 2, 3a, 3b	> 8/15	12	5	14.2	1	90	150	SOT-23
ESDA25LY	2	1, 2, 3a, 3b	> 8/15	24	1	25	1	50	150	SOT-23
ESDA14V2SC5Y	4	1, 2, 3a, 3b	> 8/15	12	5	14.2	1	100	150	SOT23-5L
ESDA25SC6Y	4	1, 2, 3a, 3b	> 8/15	24	1	25	1	60	150	SOT23-6L

(*) New products, available in Q4-2013

Rail-to-rail protection

Part number	Number of protected lines	ISO 7637-2 pulse compliance	ISO 10605 contact/air	Stand-off voltage (V_{RM})	Leakage current (I_R) @ 15 V	Forward voltage (V_F) @ 50 mA	Capacitance (C_{line}) @ 5 V	Package
			(kV)	(V)	max (µA)	max (V)	max (pF)	
DALC208SC6Y	4	3a, 3b	> 8/15	9	1	1.2	7	SOT23-6L

High-speed interface protection

Part number	Number of protected lines	ISO 7637-2 pulse compliance	ISO 10605 contact/air	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breakdown voltage (V_{BR}) @ I_R		Capacitance (C_{line}) I/O to Gnd	Capacitance (C_{line}) I/O to I/O	Junction temperature (T_j)	Package
			(kV)	(V)	max (µA)	min (V)	(mA)	typ (pF)	typ (pF)	max (°C)	
USBLC6-2SC6Y	2	3a, 3b	> 8/15	5.25	0.15	6	1	2.5	1.2	150	SOT23-6L
HSP061-2P6Y(*)	2	3a, 3b	> 8/15	5	0.5	6	1	0.6	0.3	125	SOT666
USBLC6-4SC6Y	4	3a, 3b	> 8/15	5.25	0.15	6	1	3	1.85	150	SOT23-6L
DVIULC6-4SC6Y	4	3a, 3b	> 8/15	5	0.5	6	1	0.85	0.42	150	SOT23-6L
HDMIULC6-4SC6Y	4	3a, 3b	> 8/15	5	0.5	6	1	0.85	0.42	150	SOT23-6L
HSP061-4M10Y(*)	4	3a, 3b	> 8/15	5	0.5	6	1	0.6	0.3	150	µQFN-10L

(*) New products, availlable in Q4-2013

Communication bus protection

Part number	Number of protected lines	ISO 7637-2 pulse compliance	ISO 10605 contact/air	Peak pulse power 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}	Breakdown voltage (V_{BR}) @ I_R			Clamping voltage (V_{CL}) @ I_{PP} 8/20 µs		Capacitance (C_{line}) @ 0 V	Junction temperature (T_j)	Package
			(kV)	(W)	(V)	(µA)	V_{BR} + min (V)	V_{BR} - min (V)	(mA)	(V)	(A)	max (pF)	max (°C)	
LIN bus protection														
ESDLIN1524BJ	1	3a, 3b	> 8/15	160/200	15/- 24	0.5	17.1	25.4	5	35	5	20	125	SOD-323
CAN bus protection														
ESDCAN24-2BLY	1	3a, 3b	> 8/15	230	24	0.1	27	-27	1	43	5	30	150	SOT23-3L

AUTOMOTIVE POWER-RAIL TVS PROTECTION

Automotive-grade 400 W Transil™ (TVS), ISO 7637-2 compliant (pulses 1, 2, 3a, 3b)

Part number		Peak pulse power (P_{PP}) 10/1000 µs @ 25 °C	Peak pulse power (P_{PP}) 10/1000 µs @ 150 °C	Peak pulse power (P_{PP}) 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakdown voltage (V_{BR}) @ I_R			Clamping voltage (V_{CL}) @ I_{PP} 10/1000 µs		Junction temperature (T_j)	Package
Unidirectional	Bidirectional	(W)	(W)	(kV)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min (V)	typ (V)	(mA)	max (V)	(A)	max (°C)	
SM4TY series														
SM4T6V7AY	SM4T6V7CAY	400	270	2300	5	20	50	6.4	6.74	10	9.2	43.5	150	SMA
SM4T7V6AY	SM4T7V6CAY	400	270	2300	7	20	50	7.2	7.58	10	11.2	35.7	150	SMA
SM4T10AY	SM4T10CAY	400	270	2300	9	0.2	1	9.4	9.9	1	14.4	27.7	150	SMA
SM4T12AY	SM4T12CAY	400	270	2300	10	0.2	1	11.1	11.7	1	17	23.5	150	SMA
SM4T14AY	SM4T14CAY	400	270	2300	12	0.2	1	13.3	14	1	19.9	20.1	150	SMA
SM4T15AY	SM4T15CAY	400	270	2300	13	0.2	1	14.4	15.2	1	21.5	18.6	150	SMA
SM4T18AY	SM4T18CAY	400	270	2300	15	0.2	1	16.7	17.6	1	24.4	16.4	150	SMA
SM4T21AY	SM4T21CAY	400	270	2300	18	0.2	1	20	21.1	1	29.2	13.7	150	SMA
SM4T23AY	SM4T23CAY	400	270	2300	20	0.2	1	22.2	23.4	1	32.4	12.3	150	SMA
SM4T26AY	SM4T26CAY	400	270	2300	22	0.2	1	24.4	25.7	1	35.5	11.2	150	SMA
SM4T28AY	SM4T28CAY	400	270	2300	24	0.2	1	26.7	28.1	1	38.9	10.3	150	SMA
SM4T30AY	SM4T30CAY	400	270	2300	26	0.2	1	28.9	30.4	1	42.1	9.5	150	SMA
SM4T33AY	SM4T33CAY	400	270	2300	28	0.2	1	31.1	32.7	1	45.4	8.8	150	SMA
SM4T35AY	SM4T35CAY	400	270	2300	30	0.2	1	33.3	35.1	1	48.4	8.3	150	SMA
SM4T39AY	SM4T39CAY	400	270	2300	33	0.2	1	36.7	38.6	1	53.3	7.5	150	SMA
SM4T47AY	SM4T47CAY	400	270	2300	40	0.2	1	44.4	46.7	1	64.5	6.2	150	SMA
SM4T50AY	SM4T50CAY	400	270	2300	43	0.2	1	47.8	50.3	1	69.4	5.7	150	SMA
SM4T56AY	SM4T56CAY	400	270	2300	48	0.2	1	53.3	56.1	1	77.4	5.2	150	SMA
SM4T68AY	SM4T68CAY	400	270	2300	58	0.2	1	64.4	67.8	1	93.6	4.3	150	SMA
SM4T82AY	SM4T82CAY	400	270	2300	70	0.2	1	77.8	81.9	1	113	3.5	150	SMA

Automotive-grade 600 W Transil™ (TVS), ISO 7637-2 compliant (pulses 1, 2, 3a, 3b)

Part number		Peak pulse power (P_{PP}) 10/1000 µs @ 25 °C	Peak pulse power (P_{PP}) 10/1000 µs @ 150 °C	Peak pulse power (P_{PP}) 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakdown voltage (V_{BR}) @ I_R			Clamping voltage (V_{CL}) @ I_{PP} 10/1000 µs		Junction temperature (T_j)	Package
Unidirectional	Bidirectional	(W)	(W)	(kV)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min (V)	typ (V)	(mA)	max (V)	(A)	max (°C)	
SMA6TY series														
SMA6T6V7AY	SMA6T6V7CAY	600	300	4000	5	20	50	6.4	6.7	10	9.1	68	150	SMA
SMA6T7V6AY	SMA6T7V6CAY	600	300	4000	7	20	50	7.2	7.6	10	10.2	56	150	SMA
SMA6T10AY	SMA6T10CAY	600	300	4000	9	20	50	9.4	9.9	1	13.3	41.7	150	SMA
SMA6T12AY	SMA6T12CAY	600	300	4000	10	0.2	1	11.1	11.7	1	15.7	37	150	SMA
SMA6T14AY	SMA6T14CAY	600	300	4000	12	0.2	1	13.3	14	1	18.8	31	150	SMA
SMA6T15AY	SMA6T15CAY	600	300	4000	15	0.2	1	16.7	17.6	1	23.6	25.1	150	SMA
SMA6T18AY	SMA6T18CAY	600	300	4000	18	0.2	1	20	21.1	1	28.3	21.5	150	SMA
SMA6T22AY	SMA6T22CAY	600	300	4000	19	0.2	1	20.9	22	1	30.6	20	150	SMA
SMA6T24AY	SMA6T24CAY	600	300	4000	21	0.2	1	22.8	24	1	33.2	18	150	SMA
SMA6T28AY	SMA6T28CAY	600	300	4000	24	0.2	1	26.7	28.1	1	37.8	16	150	SMA
SMA6T30AY	SMA6T30CAY	600	300	4000	26	0.2	1	28.5	30	1	41.5	14.5	150	SMA
SMA6T33AY	SMA6T33CAY	600	300	4000	28	0.2	1	31.4	33	1	45.7	13.1	150	SMA
SMA6T39AY	SMA6T39CAY	600	300	4000	33	0.2	1	37.1	39	1	53.9	11.1	150	SMA
SMA6T47AY	SMA6T47CAY	600	300	4000	40	0.2	1	44.4	46.7	1	62.8	9.7	150	SMA
SMA6T56AY	SMA6T56CAY	600	300	4000	48	0.2	1	53.3	56.1	1	75.4	8.1	150	SMA
SMA6T68AY	SMA6T68CAY	600	300	4000	58	0.2	1	64.4	67.8	1	91.1	6.7	150	SMA
SMA6T82AY	SMA6T82CAY	600	300	4000	70	0.2	1	77.8	81.9	1	110	5.5	150	SMA
SM6TY series														
SM6T6V8AY	SM6T6V8CAY	600	515	4000	6	20	50	6.45	6.8	10	10.5	57	150	SMB
SM6T7V5AY	SM6T7V5CAY	600	515	4000	6	20	50	7.13	7.5	10	11.3	53	150	SMB
SM6T10AY	SM6T10CAY	600	515	4000	9	20	50	9.5	10	1	14.5	41	150	SMB

Automotive-grade 600 W Transil™ (TVS), ISO 7637-2 compliant (pulses 1, 2, 3a, 3b)

Part number		Peak pulse power (P_{PP}) 10/1000 µs @ 25 °C	Peak pulse power (P_{PP}) 10/1000 µs @ 150 °C	Peak pulse power (P_{PP}) 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakdown voltage (V_{BR}) @ I_R			Clamping voltage (V_{CL}) @ I_{PP} 10/1000 µs		Junction temperature (T_j)	Package
Unidirectional	Bidirectional	(W)	(W)	(kV)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min (V)	typ (V)	(mA)	max (V)	(A)	max (°C)	
SM6T12AY	SM6T12CAY	600	515	4000	10	0.2	1	11.4	12	1	16.7	36	150	SMB
SM6T15AY	SM6T15CAY	600	515	4000	13	0.2	1	14.3	15	1	21.2	28	150	SMB
SM6T18AY	SM6T18CAY	600	515	4000	15	0.2	1	17.1	18	1	25.2	24	150	SMB
SM6T22AY	SM6T22CAY	600	515	4000	19	0.2	1	20.9	22	1	30.6	20	150	SMB
SM6T24AY	SM6T24CAY	600	515	4000	21	0.2	1	22.8	24	1	33.2	18	150	SMB
SM6T27AY	SM6T27CAY	600	515	4000	23	0.2	1	25.7	27	1	37.5	16	150	SMB
SM6T30AY	SM6T30CAY	600	515	4000	26	0.2	1	28.5	30	1	41.5	14.5	150	SMB
SM6T33AY	SM6T33CAY	600	515	4000	28	0.2	1	31.4	33	1	45.7	13.1	150	SMB
SM6T36AY	SM6T36CAY	600	515	4000	31	0.2	1	34.2	36	1	49.9	12	150	SMB
SM6T39AY	SM6T39CAY	600	515	4000	33	0.2	1	37.1	39	1	53.9	11.1	150	SMB
SM6T42AY	SM6T42CAY	600	515	4000	36	0.2	1	40	42.1	1	58.1	10.3	150	SMB
SM6T47AY	SM6T47CAY	600	515	4000	40	0.2	1	44.4	46.7	1	64.5	9.7	150	SMB
SM6T56AY	SM6T56CAY	600	515	4000	48	0.2	1	53.2	56	1	76.6	7.8	150	SMB
SM6T68AY	SM6T68CAY	600	515	4000	58	0.2	1	64.6	68	1	92	6.5	150	SMB
SM6T75AY	SM6T75CAY	600	515	4000	64	0.2	1	71.3	75	1	103	5.8	150	SMB
SM6T82AY	SM6T82CAY	600	515	4000	70	0.2	1	77.8	81.9	1	113	5.5	150	SMB

Automotive-grade 1500 W Transil™ (TVS), ISO 7637-2 compliant (pulses 1, 2, 3a, 3b)

Part number		Peak pulse power (P_{PP}) 10/1000 µs @ 25 °C	Peak pulse power (P_{PP}) 10/1000 µs @ 150 °C	Peak pulse power (P_{PP}) 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakdown voltage (V_{BR}) @ I_R			Clamping voltage (V_{CL}) @ I_{PP} 10/1000 µs		Junction temperature (T_j)	Package
Unidirectional	Bidirectional	(W)	(W)	(kV)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min (V)	typ (V)	(mA)	max (V)	(A)	max (°C)	
SM15TY series														
SM15T6V8AY	SM15T6V8CAY	1500	1250	10000	5.8	500	2000	6.45	6.8	10	10.5	143	150	SMC
SM15T7V5AY	SM15T7V5CAY	1500	1250	10000	6.4	250	1000	7.13	7.5	10	11.3	132	150	SMC
SM15T10AY	SM15T10CAY	1500	1250	10000	8.55	10	50	9.5	10	1	14.5	103	150	SMC
SM15T12AY	SM15T12CAY	1500	1250	10000	10.2	0.2	1	11.4	12	1	16.7	90	150	SMC
SM15T15AY	SM15T15CAY	1500	1250	10000	12.8	0.2	1	14.3	15	1	21.2	71	150	SMC
SM15T18AY	SM15T18CAY	1500	1250	10000	15.3	0.2	1	17.1	18	1	25.2	59.5	150	SMC
SM15T22AY	SM15T22CAY	1500	1250	10000	18.8	0.2	1	20.9	22	1	30.6	49	150	SMC
SM15T24AY	SM15T24CAY	1500	1250	10000	20.5	0.2	1	22.8	24	1	33.2	45	150	SMC
SM15T27AY	SM15T27CAY	1500	1250	10000	23.1	0.2	1	25.7	27	1	37.5	40	150	SMC
SM15T30AY	SM15T30CAY	1500	1250	10000	25.6	0.2	1	28.5	30	1	41.5	36	150	SMC
SM15T33AY	SM15T33CAY	1500	1250	10000	28.2	0.2	1	31.4	33	1	45.7	33	150	SMC
SM15T36AY	SM15T36CAY	1500	1250	10000	30.8	0.2	1	34.2	36	1	49.9	30	150	SMC
SM15T39AY	SM15T39CAY	1500	1250	10000	33.3	0.2	1	37.1	39	1	53.9	28	150	SMC
SM15T47AY	SM15T47CAY	1500	1250	10000	40.2	0.2	1	44.7	47	1	64.5	23.2	150	SMC
SM15T56AY	SM15T56CAY	1500	1250	10000	48	0.2	1	53.3	56	1	77.4	20	150	SMC
SM15T68AY	SM15T68CAY	1500	1250	10000	58.1	0.2	1	64.6	68	1	92	16.3	150	SMC
SM15T75AY	SM15T75CAY	1500	1250	10000	64.1	0.2	1	71.3	75	1	1.3	14.6	150	SMC
SM15T82AY	SM15T82CAY	1500	1250	10000	70	0.2	1	77.8	82	1	113	13.9	150	SMC

Automotive-grade 3000 W Transil™ (TVS), ISO 7637-2 compliant (pulses 1, 2, 3a, 3b)

Part number		Peak pulse power (P_{PP}) 10/1000 µs @ 25 °C	Peak pulse power (P_{PP}) 10/1000 µs @ 150 °C	Peak pulse power (P_{PP}) 8/20 µs	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakdown voltage (V_{BR}) @ I_R			Clamping voltage (V_{CL}) @ I_{PP} 10/1000 µs		Junction temperature (T_j)	Package
Unidirectional	Bidirectional	(W)	(W)	(kV)	(V)	@ 25 °C max (µA)	@ 85 °C max (µA)	min (V)	typ (V)	(mA)	max (V)	(A)	max (°C)	
SM30TY series														
SM30T18AY	SM30T18CAY	3000	2200	28000	15	0.2	-	16.7	17.6	1	30.0	910	150	SMC
SM30T19AY	SM30T19CAY	3000	2200	28000	16	0.2	-	17.8	18.7	1	31.5	870	150	SMC
SM30T21AY	SM30T21CAY	3000	2200	28000	18	0.2	-	20	21.1	1	35.0	790	150	SMC
SM30T23AY	SM30T23CAY	3000	2200	28000	20	0.2	-	22.2	23.4	1	37.5	730	150	SMC
SM30T26AY	SM30T26CAY	3000	2200	28000	22	0.2	-	24.4	25.7	1	40.5	680	150	SMC
SM30T28AY	SM30T28CAY	3000	2200	28000	24	0.2	-	26.7	28.1	1	43.9	630	150	SMC
SM30T30AY	SM30T30CAY	3000	2200	28000	26	0.2	-	28.9	30.4	1	47.0	600	150	SMC
SM30T33AY	SM30T33CAY	3000	2200	28000	28	0.2	-	31.1	32.7	1	50.0	560	150	SMC
SM30T35AY	SM30T35CAY	3000	2200	28000	30	0.2	-	33.3	35.1	1	53.0	530	150	SMC
SM30T39AY	SM30T39CAY	3000	2200	28000	33	0.2	-	36.7	38.6	1	58.0	490	150	SMC

Lightning surge protection: ITU-T Kseries/Telcordia GR1089

DISCRETE SURGE SUPRESSORS

Crowbar diodes

Part number	Peak pulse current (I_{PP}) 10/1000 µs GR1089	Peak pulse current (I_{PP}) 5/310 µs ITU-T K20/21	Peak pulse current (I_{PP}) 2/10 µs GR1089	Continuous reverse voltage V_R @ I_R		Breakover voltage V_{BO}	Capacitance (C_{line}) @ V_R = 2 V	Holding current (I_H)	Package
	(A)	(A)	(A)	(V)	(µA)	max (V)	typ (pF)	min (mA)	
30 A surge suppressors for telecom intrabuilding and terminals									
SMP30-62	30	40	100	62	5	82	40	150	SMA
SMP30-68	30	40	100	68	5	90	40	150	SMA
SMP30-100	30	40	100	100	5	133	35	150	SMA
SMP30-120	30	40	100	120	5	160	30	150	SMA
SMP30-130	30	40	100	130	5	173	30	150	SMA
SMP30-180	30	40	100	180	5	240	25	150	SMA
SMP30-200	30	40	100	200	5	267	25	150	SMA
SMP30-240	30	40	100	240	5	320	20	150	SMA
SMP30-270	30	40	100	270	5	360	20	150	SMA
50 A surge suppressors for telecom terminals									
SMP50-62	50	65	100	62	5	82	40	150	SMA
SMP50-68	50	65	100	68	5	90	40	150	SMA
SMP50-100	50	65	100	100	5	133	35	150	SMA
SMP50-120	50	65	100	120	5	160	30	150	SMA
SMP50-130	50	65	100	130	5	173	30	150	SMA
SMP50-180	50	65	100	180	5	240	25	150	SMA
SMP50-200	50	65	100	200	5	267	25	150	SMA
SMP50-220	50	65	100	220	5	293	25	150	SMA
SMP50-240	50	100	65	240	5	320	25	150	SMA

DISCRETE SURGE SUPRESSORS

Crowbar diodes

Part number	Peak pulse current (I_{PP}) 10/1000 µs GR1089	Peak pulse current (I_{PP}) 5/310 µs ITU-T K20/21	Peak pulse current (I_{PP}) 2/10 µs GR1089	Continuous reverse voltage V_R @ I_R		Breakover voltage V_{BO}	Capacitance (C_{line}) @ V_R = 2 V	Holding current (I_H)	Package
	(A)	(A)	(A)	(V)	(µA)	max (V)	typ (pF)	min (mA)	
SMP50-270	50	100	65	270	5	360	25	150	SMA
SMP50-320	50	100	65	320	5	400	25	150	SMA
SMTPA68	50	65	100	68	5	90	40	150	SMB
SMTPA100	50	65	100	100	5	133	35	150	SMB
SMTPA120	50	65	100	120	5	160	30	150	SMB
SMTPA130	50	65	100	130	5	173	30	150	SMB
SMTPA180	50	65	100	180	5	240	25	150	SMB
SMTPA200	50	65	100	200	5	267	25	150	SMB
SMTPA220	50	65	100	220	5	293	25	150	SMB
SMTPA270	50	65	100	270	5	360	25	150	SMB
SMTPA320	50	65	100	320	5	400	25	150	SMB
TPA62	50	65	100	62	5	82	40	150	DO-15
TPA100	50	65	100	100	5	133	40	150	DO-15
TPA120	50	65	100	120	5	160	35	150	DO-15
TPA130	50	65	100	130	5	173	30	150	DO-15
TPA180	50	65	100	180	5	240	30	150	DO-15
TPA200	50	65	100	200	5	267	25	150	DO-15
TPA220	50	65	100	220	5	293	25	150	DO-15
TPA240	50	65	100	240	5	320	25	150	DO-15
TPA270	50	65	100	270	5	360	25	150	DO-15

DISCRETE SURGE SUPRESSORS

Crowbar diodes

Part number	Peak pulse current (I_{PP}) 10/1000 µs GR1089	Peak pulse current (I_{PP}) 5/310 µs ITU-T K20/21	Peak pulse current (I_{PP}) 2/10 µs GR1089	Continuous reverse voltage V_R @ I_R		Breakover voltage V_{BO}	Capacitance (C_{line}) @ V_R = 2 V	Holding current (I_H)	Package
	(A)	(A)	(A)	(V)	(µA)	max (V)	typ (pF)	min (mA)	
75 A surge suppressors for telecom datalines									
SMP75-8	75	120	250	8	5	15	75	50	SMB
80 A surge suppressors for telecom terminals									
SMP80MC-120	80	120	250	120	5	155	25	150	SMB
SMP80MC-140	80	120	250	140	5	180	25	150	SMB
SMP80MC-160	80	120	250	160	5	205	25	150	SMB
SMP80MC-200	80	120	250	200	5	255	25	150	SMB
SMP80MC-230	80	120	250	230	5	295	25	150	SMB
SMP80MC-270	80	120	250	270	5	345	25	150	SMB
SMP80MC-320	80	120	250	320	5	400	25	150	SMB
100 A surge suppressors for telecom equipments									
SMP100MC-140	100	150	500	140	5	180	60	150	SMB
SMP100MC-160	100	150	500	160	5	205	50	150	SMB
SMP100MC-200	100	150	500	200	5	255	45	150	SMB
SMP100MC-230	100	150	500	230	5	295	40	150	SMB
SMP100MC-270	100	150	500	270	5	345	40	150	SMB
SMP100MC-320	100	150	500	320	5	400	35	150	SMB
SMP100MC-360	100	150	500	360	5	460	35	150	SMB
SMP100MC-400	100	150	500	400	5	540	30	150	SMB
SMP100LC-8	100	150	500	8	5	25	75	50 (typ)	SMB
SMP100LC-25	100	150	500	25	5	40	65	150	SMB
SMP100LC-35	100	150	500	35	5	55	55	150	SMB

DISCRETE SURGE SUPRESSORS

Crowbar diodes

Part number	Peak pulse current (I_{PP}) 10/1000 µs GR1089	Peak pulse current (I_{PP}) 5/310 µs ITU-T K20/21	Peak pulse current (I_{PP}) 2/10 µs GR1089	Continuous reverse voltage V_R @ I_R		Breakover voltage V_{BO}	Capacitance (C_{line}) @ V_R = 2 V	Holding current (I_H)	Package
	(A)	(A)	(A)	(V)	(µA)	max (V)	typ (pF)	min (mA)	
SMP100LC-65	100	150	500	65	5	85	90	150	SMB
SMP100LC-90	100	150	500	90	5	125	80	150	SMB
SMP100LC-120	100	150	500	120	5	160	75	150	SMB
SMP100LC-140	100	150	500	140	5	190	65	150	SMB
SMP100LC-160	100	150	500	160	5	205	65	150	SMB
SMP100LC-200	100	150	500	200	5	255	60	150	SMB
SMP100LC-230	100	150	500	230	5	295	60	150	SMB
SMP100LC-270	100	150	500	270	5	345	60	150	SMB
SMP0720SCMC (*)	100	150	500	65	5	88	75	150	SMB
SMP0900SCMC (*)	100	150	500	75	5	98	75	150	SMB
SMP1100SCMC (*)	100	150	500	90	5	130	70	150	SMB
SMP1300SCMC (*)	100	150	500	120	5	160	70	150	SMB
SMP1500SCMC (*)	100	150	500	140	5	180	70	150	SMB
SMP1800SCMC (*)	100	150	500	170	5	220	65	150	SMB
SMP2100SCMC (*)	100	150	500	180	5	240	40	150	SMB
SMP2300SCMC (*)	100	150	500	190	5	260	40	150	SMB
SMP2600SCMC (*)	100	150	500	220	5	300	35	150	SMB
SMP3100SCMC (*)	100	150	500	275	5	350	35	150	SMB
SMP100LC-320	100	150	500	320	5	400	50	150	SMB
SMP100LC-360	100	150	500	360	5	460	50	150	SMB
SMP100LC-400	100	150	500	400	5	540	45	150	SMB

(*) New Trisils™

Crowbar ICs

Part number	Number of protected lines	Peak pulse current (I_{PP}) 10/1000 µs GR1089	Peak pulse current (I_{PP}) 5/310 µs ITU-T K20/21	Stand-off voltage (V_{RM})	Leakage current I_{RM} @ V_{RM}	Continuous reverse voltage V_R @ I_R		Breakover voltage V_{BO}	Capacitance (C_{line}) @ V_R = 2 V	Holding current (I_H)	Package
		(A)	(A)	(V)	max (µA)	(V)	(µA)	max (V)	typ (pF)	min (mA)	
Fixed voltage protection for telecom relays											
THBT15011DRL	2	30	37.5	135	5	150	50	210	80	150	SO-8
THBT20011D	2	30	37.5	180	5	200	50	290	80	150	SO-8
TLP200G-1	2	100	150	180	5	200	50	290	110	150	I²PAK

XDSL LINE PROTECTION ICS

Secondary protection for DSL lines

Part number	Number of protected lines	Peak pulse current (I_{PP}) 10/1000 µs GR1089 (1)	Peak pulse current (I_{PP}) 5/310 µs ITU-T K20/21 (1)	Peak pulse current (I_{PP}) 2/10 µs GR1089 (1)	Stand-off voltage (V_{RM})	Leakage current I_{RM} @ V_{RM}	Breakdown voltage V_{BR} @ I_{BR}		Breakover voltage V_{BO}	Capacitance (C_{line}) @ V_R = 2 V	Δ capacitance (Δ C)	Package
		(A)	(A)	(A)	(V)	max (µA)	min (V)	(mA)	max (V)	typ (pF)	typ (pF)	
DSL01-008SC5	2	100	150	500	8	0.5	9.5	1	20	12	3.5	SOT23-5L
DSL01-010SC5	2	100	150	500	10.5	0.5	11	1	30	10	3.5	SOT23-5L
DSL01-016SC5	2	100	150	500	16	0.5	18	1	40	8.5	3.5	SOT23-5L
DSL01-024SC5	2	100	150	500	24	0.5	28	1	50	7	3.5	SOT23-5L
DSL02-005SC5	2	100	150	500	5	0.5	6	1	-	3	0.3	SOT23-5L
DSL02-008SC5	2	100	150	500	8	0.5	10	1	-	3	0.3	SOT23-5L
DSL02-010SC5	2	100	150	500	10	0.5	10.5	1	-	3	0.3	SOT23-5L
DSL03-010SC6	2	100	150	500	10	0.2	10.5	1	-	0.5	0.2	SOT23-6L
DSL03-024SC6	2	100	150	500	24	0.2	28	1	-	0.5	0.2	SOT23-6L
DSL03-022SC6	2	100	150	500	24	0.2	28	1	-	0.5	0.2	SOT23-6L
DSL04-005SC6	2	100	150	500	5	0.2	6.5	1	-	1	0.3	SOT23-6L
DSL04-008SC6	2	100	150	500	8	0.2	10	1	-	1	0.3	SOT23-6L
DSL04-012SC6	2	100	150	500	12	0.2	14	1	-	1	0.3	SOT23-6L
DSL04-022SC6	2	100	150	500	22	0.2	25	1	-	1	0.3	SOT23-6L
DSL04-024SC6	2	100	150	500	24	0.2	28	1	-	1	0.3	SOT23-6L

(1) Applicable with line transformer and capacitance

OTHER TELECOM LINE PROTECTION ICS

Protection for ISDN, S and U interfaces

Part number	Number of protected lines	Peak pulse current (I_{PP}) 10/1000 µs GR1089	Peak pulse current (I_{PP}) 5/310 µs ITU-T K20/21	Peak pulse current (I_{PP}) 2/10 µs GR1089	Stand-off voltage (V_{RM})	Breakdown voltage V_{BR} @ I_{BR}		Breakover voltage V_{BO} @ I_{BO}		Holding current (I_H)	Package
		(A)	(A)	(A)	(V)	min (V)	(mA)	max (V)	(mA)	min (mA)	
TPI8011N	2	30	40	90	70	80	1	120	800	150	SO-8
TPI12011N	2	30	40	90	105	120	1	180	800	150	SO-8

Protection for T1/E1 interfaces

Part number	Number of lines	Peak pulse current (I_{PP}) 8/20 µs IEC 61000-4-5	Peak pulse current (I_{PP}) 5/310 µs ITU-T K20/21	Peak pulse current (I_{PP}) 2/10 µs GR1089	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakover voltage V_{BO}	Capacitance (C_{line})	Holding current (I_H)	Package
		(A)	(A)	(A)	(V)	max (µA)	(V)	max (V)	typ (pF)	min (mA)	
TPN3021	2	100	50	200	28	4	28	38	16	30	SO-8

Overvoltage and overcurrent protection for telecom lines

Part number	Number of lines	Peak pulse current (I_{PP}) 10/1000 µs GR1089	Peak pulse current (I_{PP}) 5/310 µs ITU-T K20/21	Peak pulse current (I_{PP}) 2/10 µs GR1089	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakover voltage V_{BO} @ I_{BO}		Holding current (I_H)	Package
		(A)	(A)	(A)	(V)	max (µA)	(V)	max (V)	(mA)	min (mA)	
TPP25011RL	2	30	40	75	60	6	60	340	200	180	SO-8

SLIC PROTECTION ICS

Programmable voltage protection for SLICs

Part number	Number of protected lines	Peak pulse current (I_{PP}) 10/1000 µs GR1089	Peak pulse current (I_{PP}) 5/310 µs ITU-T K20/21	Peak pulse current (I_{PP}) 2/10 µs GR1089	Gate line voltage (V_{MGL})	Leakage current I_{RM} @ V_{RM}	Peak forward voltage line/ GND VFP 10/700 µs	Dynamic switching voltage gate/line 10/700 µs	Holding current (I_H)	Gate decoupling capacitance (C_G)	Package
		(A)	(A)	(A)	max (V)	max (µA)	max (V)	max (V)	min (mA)	min (nF)	
LCDP1521SRL	4	2 x 25	2 x 40	2 x 90	175	5	8	5	150	100	SO-8
LCP1531RL	2	-	37.5	-	150	5	5	7	150	100	SO-8
LCP1521SRL	2	30	40	150	150	5	5	7	150	100	SO-8
LCP02-150B1RL	2	30	45	100	-120/+120	5	-	8	150	100	SO-8 wide
LCP03	2	30	60	130	-53/83	5	-	-	150	-	SO-8
LCP12-150B1RL	2	45	75	150	-120/+120	5	-	8	150	100	SO-8 wide

Programmable current and voltage protection for line cards

Part number	Number of protected lines	Peak pulse current (I_{PP}) 10/1000 µs GR1089	Peak pulse current (I_{PP}) 5/310 µs ITU-T K20/21	Peak pulse current (I_{PP}) 2/10 µs GR1089	Line to GND operating voltage V_{LG}	Line to GND leakage current I_{LGL} @ V_{GL}		Breakover voltage V_{BO}	Holding current (I_H)	Package
		(A)	(A)	(A)	(V)	max (µA)		max (V)	min (mA)	
CLP30-200B1RL	2	30	40	100	200	10	200	290	150	SO-8

ETHERNET LINE PROTECTION ICS

Part number	Number of lines	Peak pulse current (I_{PP}) 8/20 µs IEC 61000-4-5	Peak pulse current (I_{PP}) 5/310 µs ITU-T K20/21	Peak pulse current (I_{PP}) 2/10 µs GR1089	Stand-off voltage (V_{RM})	Leakage current (I_{RM}) @ V_{RM}		Breakover voltage V_{BO}	Capacitance (C_{line})	Holding current (I_H)	Package
		(A)	(A)	(A)	(V)	max (µA)	(V)	max (V)	max (pF)	min (mA)	
ETP01-1621RL	2	48	37.5	100	16	1	16	25	13	30	SO-8
ETP01-2821RL	2	48	37.5	100	28	1	28	36	13	30	SO-8

Current-limiting termination

Part number	Number of channels	Digital input type	Supply voltage (V_{CC})	Input voltage V_I	Input limiting current I_{LIM}	Off state output current (I_{OFF})/off state ooutput voltage (V_{OFF})	IEC 61000-4-2	Peak pulse voltage V_{PP} 1.2/50 µs	Package
			(V)	(V)	min/max (mA)	(mA/V)	(kV)	(kV)	
CLT3-4BT6	4	1 and 3	19 to 35	-30 to +35	2.1/3.7	1.5/5	±8	1	HTSSOP14
PCLT-2AT4	2	1, 2, 3	19 to 35	-30 to 35	6.1/8.8 for type 2 2.8/4.3 for type 1	2/5	±15	1	TSSOP14
SCLT3-8BT8	8	1, 2, 3	15 to 35	-30 to +35	2.1/2.6	1.5/5	±15	1	HTSSOP38
CLT01-38S4	8	1, 2, 3	-0.3 to +35 V	-30 to +35	2.1/2.6	1.5/4	±8	1	HTSSOP38

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