



2SC4242

NPN SILICON TRANSISTOR

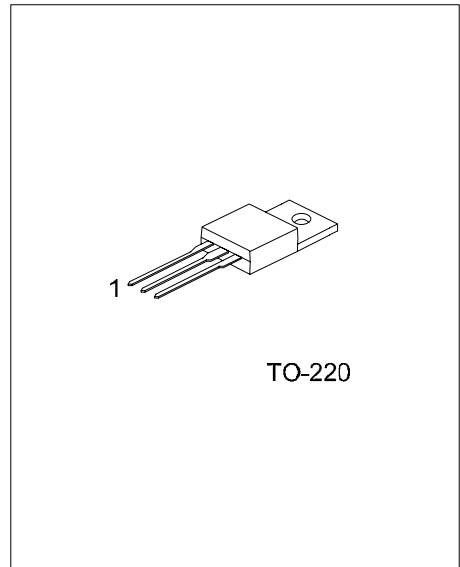
SWITCHMODE SERIES NPN POWER TRANSISTORS

DESCRIPTION

The UTC 2SC4242 is a high-voltage, high-speed switching power transistor and designed particularly for 115 and 220V switch mode applications, such as switching regulators, inverters, DC-DC converter and general purpose power amplifiers.

FEATURES

- * Low saturation voltage.
- * Switching time: $t_F=0.5 \mu s$ (Max.)@ $I_C=5.0A$
- * High reliability



*Pb-free plating product number: 2SC4242L

ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
2SC4242-TA3-T	2SC4242L-TA3-T	TO-220	B	C	E	Tube

2SC4242L-TA3-T	(1)Packing Type (2)Package Type (3)Lead Plating	(1) T: Tube (2) TA3: TO-220 (3) L: Lead Free Plating, Blank: Pb/Sn
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■ ABSOLUTE MAXIMUM RATINGS

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Emitter Voltage		V_{CEO}	400	V
Collector-Base Voltage		V_{CBO}	450	V
Emitter-Base Voltage		V_{EBO}	8.0	V
Collector Current	Continuous	I_C	7.0	A
	Peak	I_{CM}	14	
Base Current		I_B	2.0	A
Total Power Dissipation @ $T_C=25$		P_D	40	W
Derate Above 25			0.32	W/°C
Junction Temperature		T_J	+150	°C
Storage Temperature		T_{STG}	-40 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL DATA

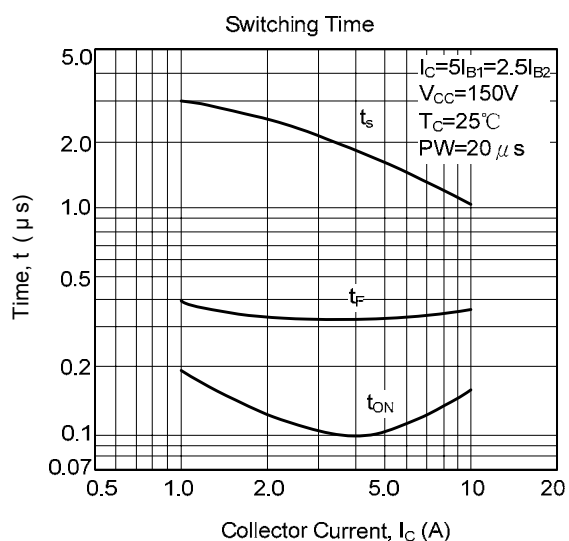
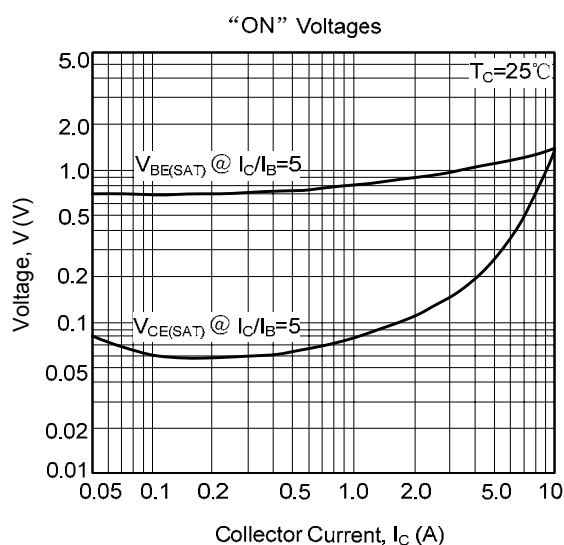
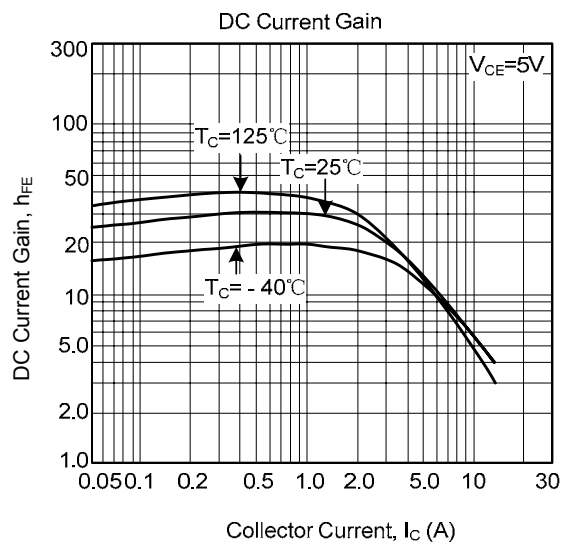
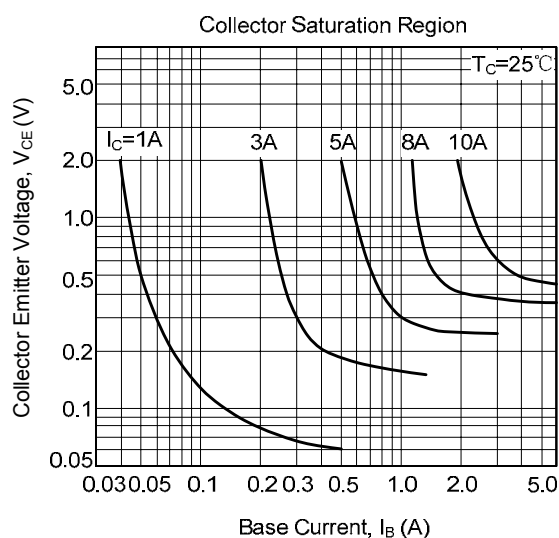
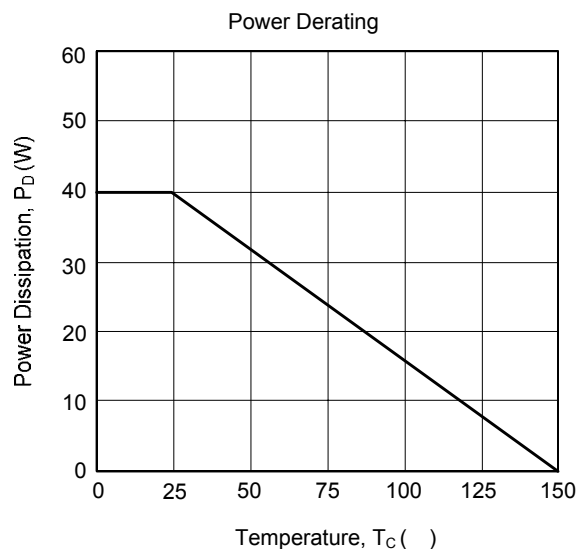
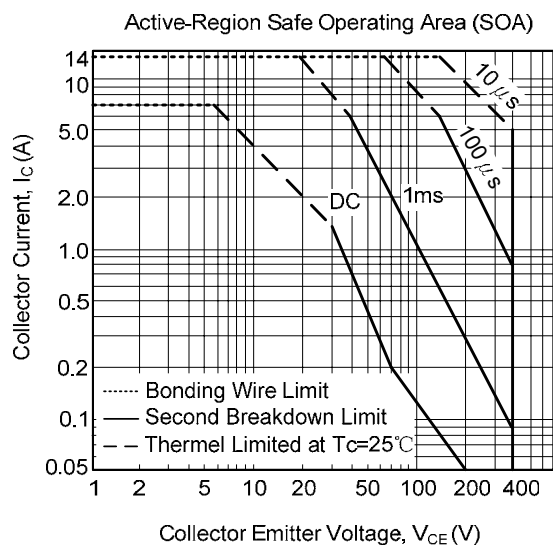
PARAMETER	SYMBOL	RATINGS	UNIT
Thermal Resistance Junction -Case	JC	4	°C/W

■ ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Collector-Emitter Sustaining Voltage	BV_{CEO}	$I_{CEO}=100\text{mA}$, $I_B=0$	400			V
Collector-Base Breakdown Voltage	BV_{CBO}	$I_{CBO}=1.0\text{mA}$, $I_E=0$	450			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_{EBO}=1.0\text{mA}$, $I_C=0$	8.0			V
Collector Cutoff Current	I_{CBO}	$V_{CBO}=450\text{V}$, $I_E=0$			100	μA
Emitter Cutoff Current	I_{EBO}	$V_{EBO}=8.0\text{V}$, $I_C=0$			100	μA
ON CHARACTERISTICS						
DC Current Gain	h_{FE}	$I_C=4.0\text{A}$, $V_{CE}=5.0\text{V}$	10			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=4.0\text{A}$, $I_B=800\text{mA}$			0.8	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=4.0\text{A}$, $I_B=800\text{mA}$			1.2	V
SWITCHING CHARACTERISTICS						
On Time	t_{ON}	$V_{CC}=150\text{V}$, $I_C=5.0\text{A}$ $I_{B1} = -I_{B2}=1.0\text{A}$, $R_L=30$			1.0	μs
Storage Time	t_S				2.5	μs
Fall Time	t_F				0.5	μs

Note: Pulse Test: Pulse Width=300 μs , Duty Cycle $\leq 2.0\%$

TYPICAL CHARACTERISTIC



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