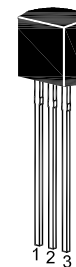


13002G

NPN Silicon Epitaxial Planar Transistor

High voltage power transistor



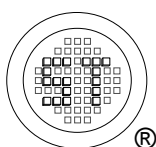
1. Emitter 2. Collector 3. Base
TO-92 Plastic Package

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Emitter Voltage	V_{CES}	700	V
Collector Emitter Voltage	V_{CEO}	450	V
Emitter Base Voltage	V_{EBO}	9	V
Collector Current	I_C	0.5	A
Collector Peak Current	I_{CM}	1.5	A
Total Power Dissipation	P_{tot}	0.8	W
Operating Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 65 to + 150	$^\circ\text{C}$

Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = 2\text{ V}$, $I_C = 200\text{ mA}$	h_{FE}	23	35	-
Collector Emitter Cutoff Current at $V_{CE} = 700\text{ V}$	I_{CES}	-	1	mA
Collector Emitter Breakdown Voltage at $I_C = 10\text{ mA}$	$V_{(BR)CEO}$	450	-	V
Emitter Base Breakdown Voltage at $I_E = 10\text{ mA}$	$V_{(BR)EBO}$	9	18	V
Collector Emitter Saturation Voltage at $I_C = 200\text{ mA}$, $I_B = 40\text{ mA}$ at $I_C = 500\text{ mA}$, $I_B = 100\text{ mA}$	V_{CEsat}	- -	0.5 1	V
Base Emitter Saturation Voltage at $I_C = 200\text{ mA}$, $I_B = 40\text{ mA}$ at $I_C = 500\text{ mA}$, $I_B = 100\text{ mA}$	V_{BEsat}	- -	1 1.2	V
Rise Time at $V_{CC} = 60\text{ V}$, $I_C = 0.3\text{ A}$, $I_B = -I_{B2} = 0.1\text{ A}$, $t_p = 25\text{ }\mu\text{s}$	t_r	-	0.7	μs
Storage Time at $V_{CC} = 60\text{ V}$, $I_C = 0.3\text{ A}$, $I_B = -I_{B2} = 0.1\text{ A}$, $t_p = 25\text{ }\mu\text{s}$	t_s	-	2.5	μs
Fall Time at $V_{CC} = 60\text{ V}$, $I_C = 0.3\text{ A}$, $I_B = -I_{B2} = 0.1\text{ A}$, $t_p = 25\text{ }\mu\text{s}$	t_f	-	0.5	μs



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Figure 3: Base-Emitter Saturation Voltage

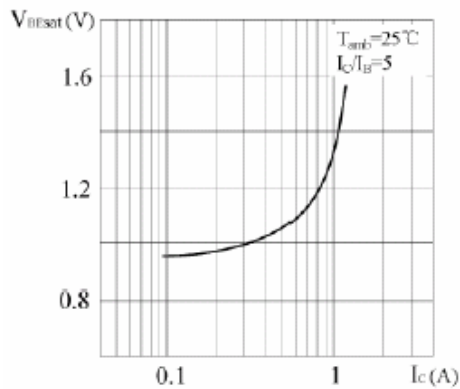


Figure 6: Derating Curve

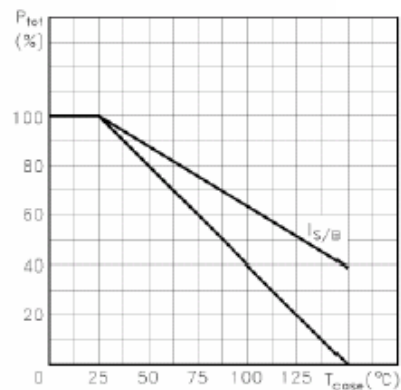


Figure 4: Output Characteristics

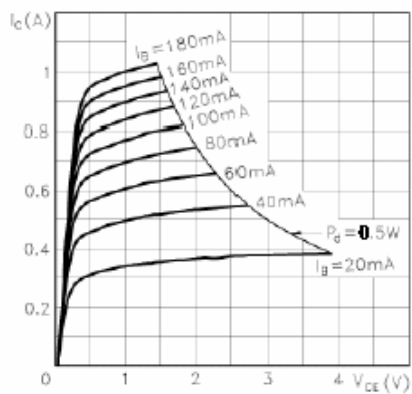


Figure 7: Collector-Emitter Saturation Voltage

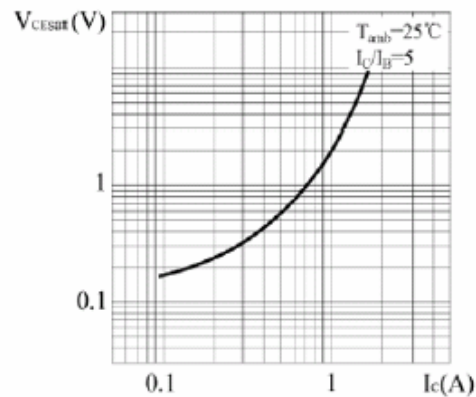
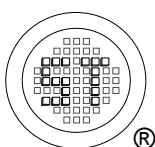
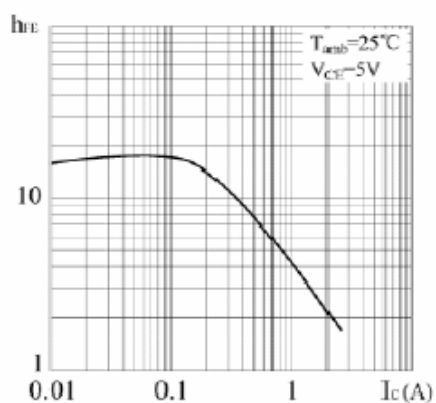


Figure 5: DC Current Gain



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