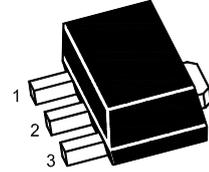


NPN Silicon Epitaxial Planar Transistor

for high voltage and high speed switching applications

MARKING:13003



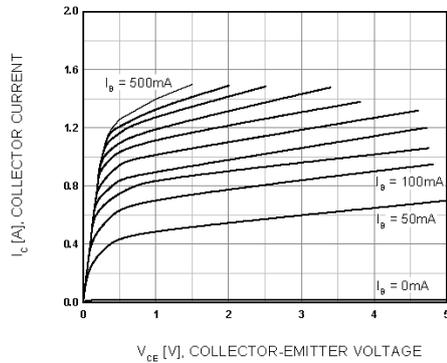
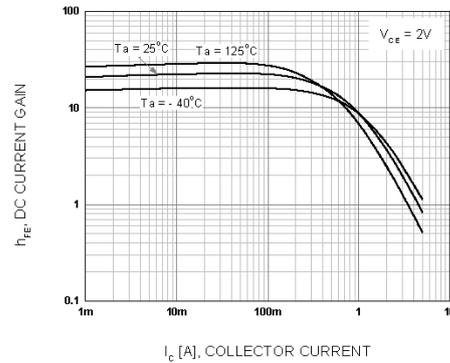
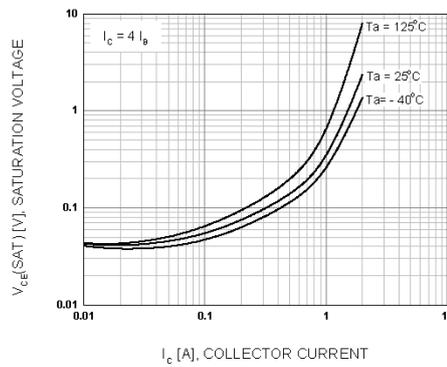
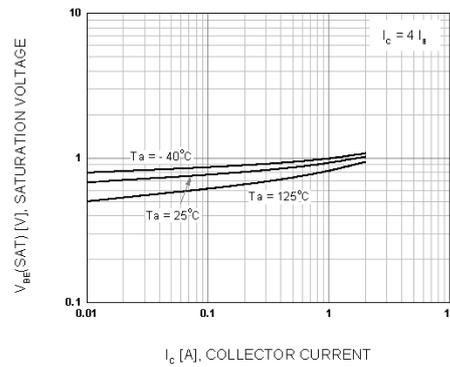
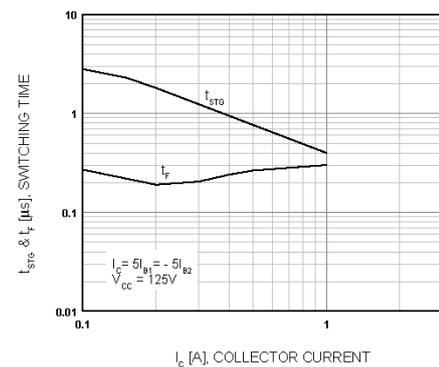
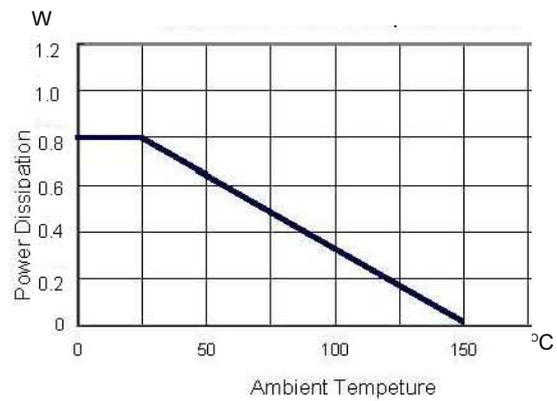
1.Base 2.Collector 3.Emitter
SOT-89 Plastic Package

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

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	800	V
Collector Emitter Voltage	V_{CEO}	430	V
Emitter Base Voltage	V_{EBO}	9	V
Collector Current (DC)	I_C	1.5	A
Collector Current (Pulse)	I_{CP}	3	A
Total Power Dissipation	P_{tot}	0.8	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 65 to + 150	$^\circ\text{C}$

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

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = 2\text{ V}$, $I_C = 0.5\text{ A}$ at $V_{CE} = 2\text{ V}$, $I_C = 1\text{ A}$ at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ }\mu\text{A}$	h_{FE} h_{FE} h_{FE}	20 8 6	40 40 40	- - -
Collector Base Cutoff Current at $V_{CB} = 700\text{ V}$	I_{CBO}	-	10	μA
Emitter Base Cutoff Current at $V_{EB} = 9\text{ V}$	I_{EBO}	-	10	μA
Collector Base Breakdown Voltage at $I_C = 500\text{ }\mu\text{A}$	$V_{(BR)CBO}$	800	-	V
Collector Emitter Breakdown Voltage at $I_C = 5\text{ mA}$	$V_{(BR)CEO}$	430	-	V
Emitter Base Breakdown Voltage at $I_E = 500\text{ }\mu\text{A}$	$V_{(BR)EBO}$	9	-	V
Collector Emitter Saturation Voltage at $I_C = 0.5\text{ A}$, $I_B = 0.1\text{ A}$ at $I_C = 1\text{ A}$, $I_B = 0.25\text{ A}$ at $I_C = 1.5\text{ A}$, $I_B = 0.5\text{ A}$	$V_{CE(sat)}$	- - -	0.5 1 3	V
Base Emitter Saturation Voltage at $I_C = 0.5\text{ A}$, $I_B = 0.1\text{ A}$ at $I_C = 1\text{ A}$, $I_B = 0.25\text{ A}$	$V_{BE(sat)}$	- -	1 1.2	V
Transition Frequency at $V_{CE} = 10\text{ V}$, $I_C = 100\text{ mA}$	f_T	4	-	MHz
Turn On Time at $V_{CC} = 125\text{ V}$, $I_C = 1\text{ A}$, $I_B = -I_{B2} = 0.2\text{ A}$, $R_L = 125\text{ }\Omega$	t_{on}	-	1.1	μs
Storage Time at $V_{CC} = 125\text{ V}$, $I_C = 1\text{ A}$, $I_B = -I_{B2} = 0.2\text{ A}$, $R_L = 125\text{ }\Omega$	t_s	-	4	μs
Fall Time at $V_{CC} = 125\text{ V}$, $I_C = 1\text{ A}$, $I_B = -I_{B2} = 0.2\text{ A}$, $R_L = 125\text{ }\Omega$	t_f	-	0.7	μs


Figure 1. Static Characteristic

Figure 2. DC current Gain

Figure 3. Collector-Emitter Saturation Voltage

Figure 4. Base-Emitter Saturation Voltage

Figure 5. Resistive Load Switching Time

Figure 6. Power Derating