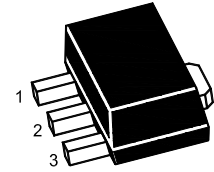


### PNP Silicon Epitaxial Power Transistor



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

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

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	45	V
Collector Emitter Voltage	$-V_{CEO}$	30	V
Emitter Base Voltage	$-V_{EBO}$	6	V
Collector Current	$-I_C$	3	A
Peak Collector Current	$-I_{CM}$	5	A
Base Current	$-I_B$	1	A
Total Power Dissipation at $T_a = 25^\circ\text{C}$	$P_{tot}$	0.72 <sup>1)</sup>	W
Total Power Dissipation at $T_c = 25^\circ\text{C}$	$P_{tot}$	3	W
Operating and Storage Junction Temperature Range	$T_j, T_{stg}$	- 55 to + 150	$^\circ\text{C}$

<sup>1)</sup> Mounted on 0.012" sq. (7.6 sq. mm) Collector pad on FR-4 bd material.

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_{CE} = 1\text{ V}, -I_C = 0.8\text{ A}$ at $-V_{CE} = 1\text{ V}, -I_C = 1.2\text{ A}$ at $-V_{CE} = 1\text{ V}, -I_C = 3\text{ A}$	$h_{FE}$ $h_{FE}$ $h_{FE}$	125 110 90	- - -	- - -	- - -
Collector Emitter Cutoff Current at $-V_{CE} = 25\text{ V}$	$-I_{CEO}$	-	-	20	$\mu\text{A}$
Emitter Base Cutoff Current at $-V_{EB} = 5\text{ V}$	$-I_{EBO}$	-	-	10	$\mu\text{A}$
Collector Emitter Sustaining Voltage at $-I_C = 10\text{ mA}$	$-V_{(SUS)CEO}$	30	-	-	V
Emitter Base Breakdown Voltage at $-I_E = 50\text{ }\mu\text{A}$	$-V_{(BR)EBO}$	6	-	-	V
Collector Emitter Saturation Voltage at $-I_C = 0.8\text{ A}, -I_B = 20\text{ mA}$ at $-I_C = 1.2\text{ A}, -I_B = 20\text{ mA}$ at $-I_C = 3\text{ A}, -I_B = 300\text{ mA}$	$-V_{CE(sat)}$	- - -	- - -	0.21 0.275 0.55	V
Base Emitter Saturation Voltage at $-I_C = 3\text{ A}, -I_B = 300\text{ mA}$	$-V_{BE(sat)}$	-	-	1.25	V
Base Emitter on Voltage at $-V_{CE} = 4\text{ V}, -I_C = 1.2\text{ A}$	$-V_{BE(on)}$	-	-	1.1	V
Current Gain Bandwidth Product at $-V_{CE} = 10\text{ V}, -I_C = 500\text{ mA}, f = 1\text{ MHz}$	$f_T$	-	110	-	MHz
Collector Output Capacitance at $-V_{CB} = 10\text{ V}, f = 1\text{ MHz}$	$C_{ob}$	-	-	150	pF

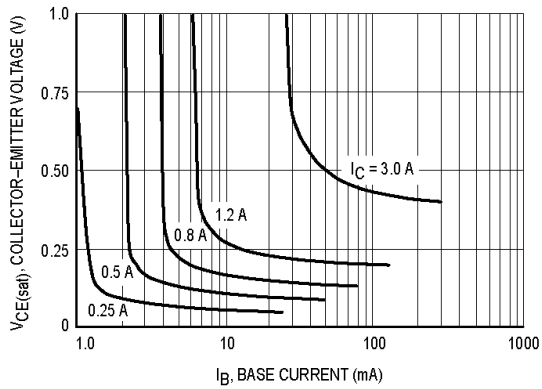


Figure 1. Collector Saturation Region

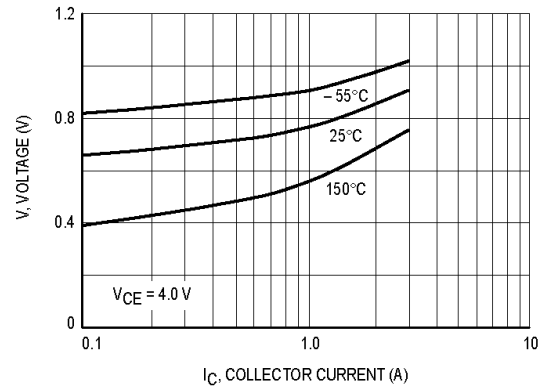


Figure 2.  $V_{BE(on)}$  Voltage

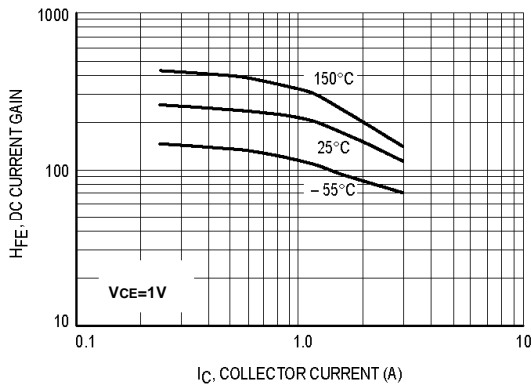


Figure 3. DC Current Gain

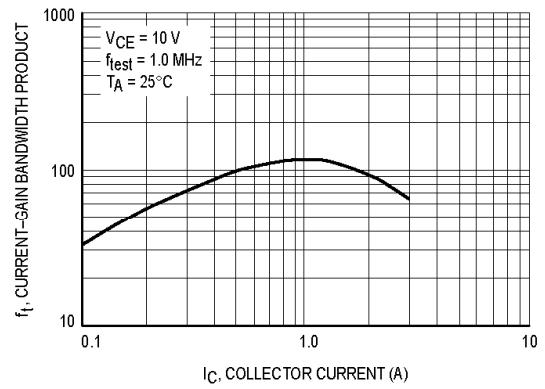


Figure 4. Current-Gain Bandwidth Product

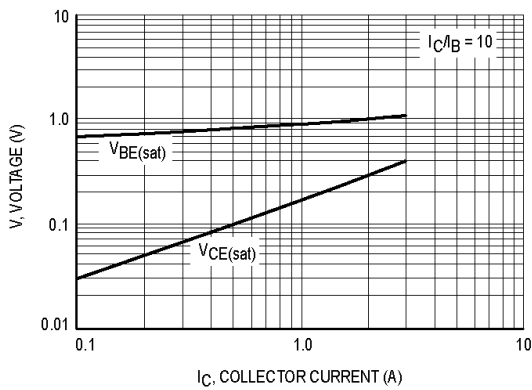


Figure 5. "On" Voltages

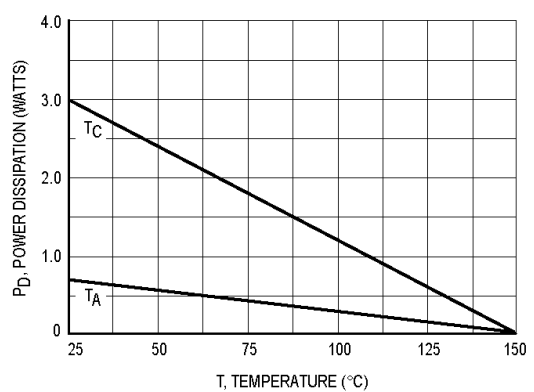


Figure 6. Power Derating