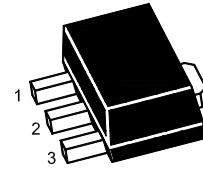


NPN Silicon Epitaxial Planar Transistor

Power amplifier



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}	120	V
Collector Emitter Voltage	V_{CEO}	120	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	800	mA
Base Current	I_B	160	mA
Collector Power Dissipation	P_C	0.5 1 ¹⁾	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

¹⁾ Mounted on ceramic board (250 mm² X 0.8 mm).

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	
DC Current Gain at $V_{CE} = 5\text{ V}$, $I_C = 100\text{ mA}$	Current Gain Group O	h_{FE}	80	-	160	-
	Y	h_{FE}	120	-	240	-
Collector Base Cutoff Current at $V_{CB} = 120\text{ V}$	I_{CBO}	-	-	100	nA	
Emitter Base Cutoff Current at $V_{EB} = 5\text{ V}$	I_{EBO}	-	-	100	nA	
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	$V_{(BR)CEO}$	120	-	-	V	
Emitter Base Breakdown Voltage at $I_E = 1\text{ mA}$	$V_{(BR)EBO}$	5	-	-	V	
Collector Emitter Saturation Voltage at $I_C = 500\text{ mA}$, $I_B = 50\text{ mA}$	$V_{CE(sat)}$	-	-	1	V	
Base Emitter on Voltage at $V_{CE} = 5\text{ V}$, $I_C = 500\text{ mA}$	$V_{BE(on)}$	-	-	1	V	
Transition Frequency at $V_{CE} = 5\text{ V}$, $I_C = 100\text{ mA}$	f_T	-	120	-	MHz	
Collector Output Capacitance at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	-	30	pF	

Figure 1. Static Characteristic

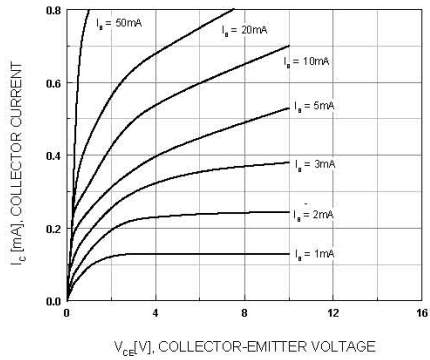


Figure 2. Base-Emitter On Voltage

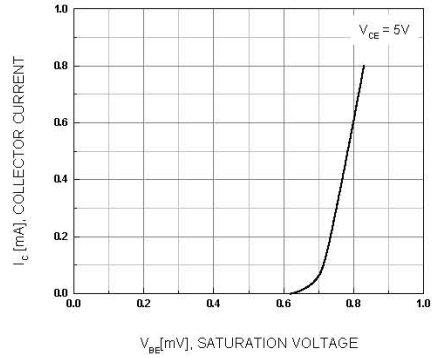


Figure 3. DC Current Gain

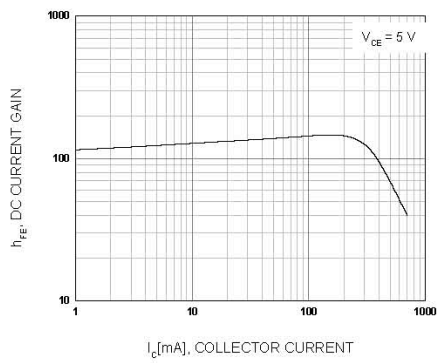


Figure 4. Collector-Emitter Saturation Voltage

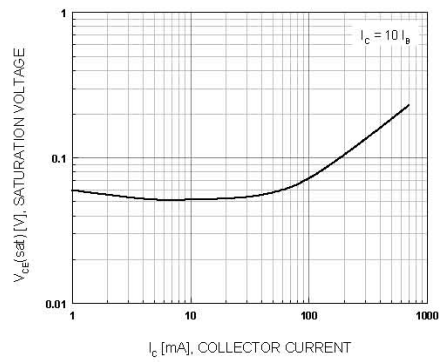
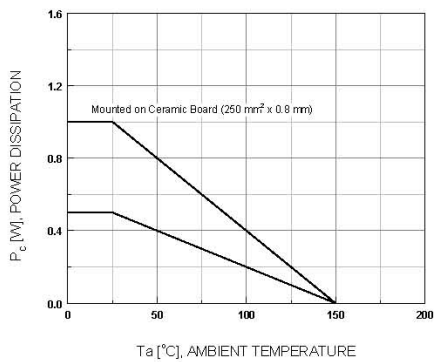


Figure 5. Power Derating



SOT-89 PACKAGE OUTLINE

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