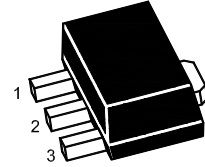


NPN Silicon Planar Medium Power Transistor



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}	40	V
Collector Emitter Voltage	V_{CEO}	40	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	1	A
Peak Collector Current	I_{CM}	2	A
Collector Power Dissipation	P_{tot}	1	W
Operating and Storage Temperature Range	T_j, 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 $V_{CE} = 5\text{ V}, I_C = 1\text{ mA}$	h_{FE}	300	-	-
at $V_{CE} = 5\text{ V}, I_C = 500\text{ mA}$	h_{FE}	300	900	-
at $V_{CE} = 5\text{ V}, I_C = 1\text{ A}$	h_{FE}	200	-	-
at $V_{CE} = 5\text{ V}, I_C = 2\text{ A}$	h_{FE}	35	-	-
Collector Base Cutoff Current at $V_{CB} = 30\text{ V}$	I_{CBO}	-	100	nA
Collector Emitter Cutoff Current at $V_{CE} = 30\text{ V}$	I_{CES}	-	100	nA
Emitter Base Cutoff Current at $V_{EB} = 4\text{ V}$	I_{EBO}	-	100	nA
Collector Base Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$	$V_{(BR)CBO}$	40	-	V
Collector Emitter Breakdown Voltage at $I_C = 10\text{ mA}$	$V_{(BR)CEO}$	40	-	V
Emitter Base Breakdown Voltage at $I_E = 100\text{ }\mu\text{A}$	$V_{(BR)EBO}$	5	-	V
Collector Emitter Saturation Voltage at $I_C = 500\text{ mA}, I_B = 50\text{ mA}$	$V_{CE(sat)}$	-	0.3	V
at $I_C = 1\text{ A}, I_B = 100\text{ mA}$		-	0.5	
Base Emitter Saturation Voltage at $I_C = 1\text{ A}, I_B = 100\text{ mA}$	$V_{BE(sat)}$	-	1.1	V
Base Emitter on Voltage at $V_{CE} = 5\text{ V}, I_C = 1\text{ A}$	$V_{BE(on)}$	-	1	V
Transition Frequency at $V_{CE} = 10\text{ V}, I_C = 50\text{ mA}, f = 100\text{ MHz}$	f_T	150	-	MHz
Collector Base Capacitance at $V_{CB} = 10\text{ V}, f = 1\text{ MHz}$	C_{ob}	-	10	pF



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