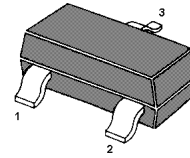


MMBT5089

NPN General Purpose Amplifier

For low noise, high gain, general purpose amplifier applications



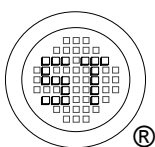
1. Base 2. Emitter 3. Collector
SOT-23 Plastic Package

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

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	30	V
Collector Emitter Voltage	V_{CEO}	25	V
Emitter Base Voltage	V_{EBO}	4.5	V
Collector Current - Continuous	I_C	100	mA
Total Device Dissipation	P_{tot}	200	mW
Operating and Storage Junction Temperature Range	T_j, T_{stg}	- 55 to + 150	$^\circ\text{C}$

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

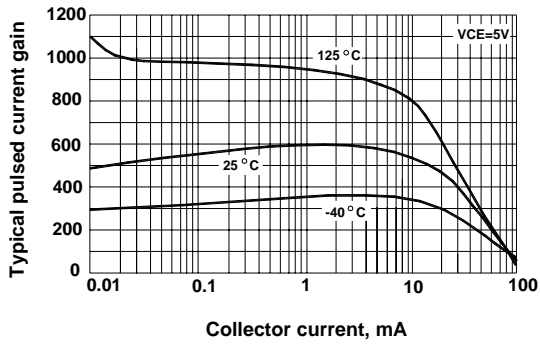
Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}, I_C = 100\text{ }\mu\text{A}$	h_{FE}	400	1200	-
at $V_{CE} = 5\text{ V}, I_C = 1\text{ mA}$	h_{FE}	450	-	-
at $V_{CE} = 5\text{ V}, I_C = 10\text{ mA}$	h_{FE}	400	-	-
Collector Base Cutoff Current at $V_{CB} = 15\text{ V}$	I_{CBO}	-	50	nA
Emitter Base Cutoff Current at $V_{EB} = 3\text{ V}$	I_{EBO}	-	50	nA
at $V_{EB} = 4.5\text{ V}$		-	100	
Collector Base Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$	$V_{(BR)CBO}$	30	-	V
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	$V_{(BR)CEO}$	25	-	V
Collector Emitter Saturation Voltage at $I_C = 10\text{ mA}, I_B = 1\text{ mA}$	$V_{CE(sat)}$	-	0.5	V
Base Emitter On Voltage at $V_{CE} = 5\text{ V}, I_C = 10\text{ mA}$	$V_{BE(on)}$	-	0.8	V
Gain Bandwidth Product at $V_{CE} = 5\text{ V}, I_C = 500\text{ }\mu\text{A}, f = 20\text{ MHz}$	f_T	50	-	MHz
Collector Output Capacitance at $V_{CB} = 5\text{ V}, f = 100\text{ KHz}$	C_{ob}	-	4	pF



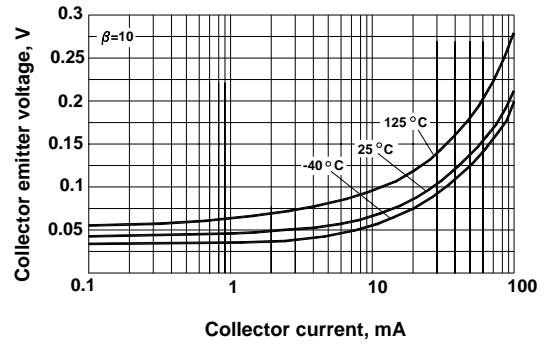
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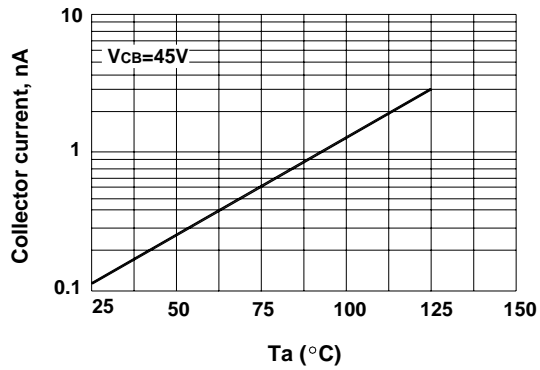
Typical pulsed current gain vs. collector current



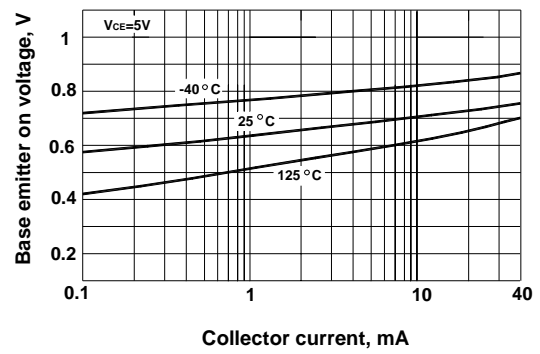
Collector emitter saturation voltage vs. collector current



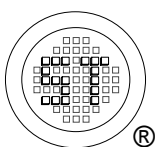
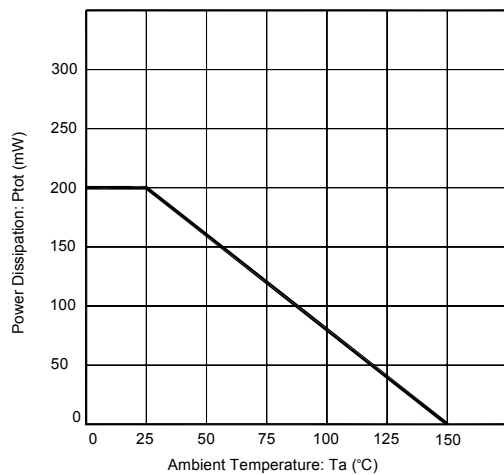
Collector cutoff current vs. ambient temperature



Base emitter on voltage vs. collector current



Power Dissipation vs Ambient Temperature



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