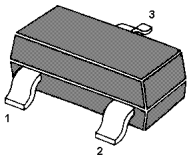
MMBT5089

NPN General Purpose Amplifier

For low noise, high gain, general purpose amplifier applications



1. Base 2. Emitter 3. Collector

TO-236 Plastic Package

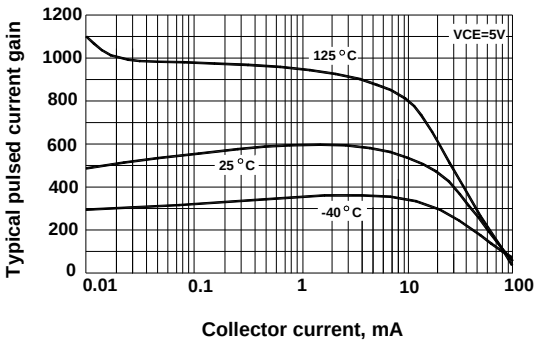
Absolute Maximum Ratings (T_a = 25 °C)

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	°C

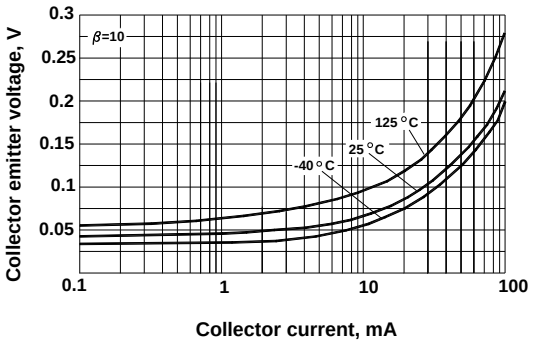
Characteristics at T_{amb}=25 °C

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

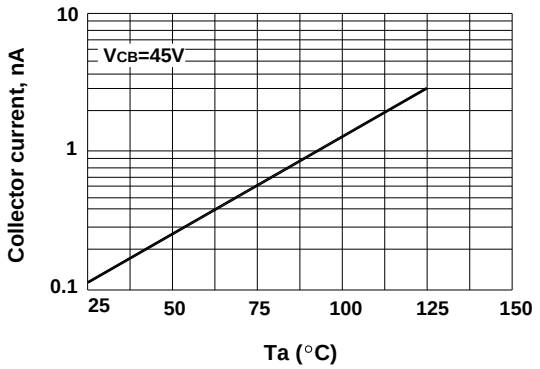
Typical pulsed current gain vs. collector current



Collector emitter saturation voltage vs.collector current



Collector cutoff current vs. ambient temperature



Base emitter on voltage vs.collector current