MMBT5087

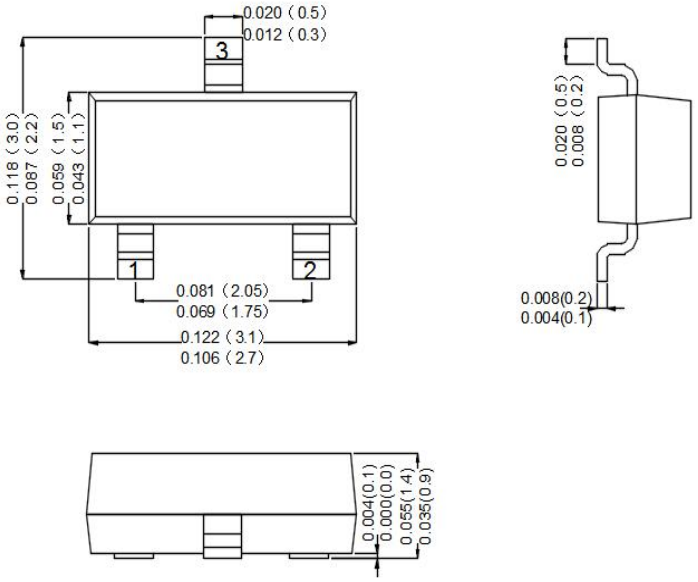
PNP Silicon Epitaxial Planar Transistor

Features

SOT-23

• For general purpose application

• This device is designed for low level, high gain, low noise general purpose amplifier applications at collector currents to 50mA



Dimensions in inches and (millimeters)

Mechanical Data

• Case:Molded Plastic,SOT-23

• Epoxy:UL 94V-0 rate flame retardant

• Terminals:Plated Leads Solderable perMIL-STD-750,Method-2026.

• Marking: 2Q

• Mounting Position : Any.

• Equivalent Circuit:

Maximum Ratings Maximum Ratings (Rating at 25℃ ambient temperature unless otherwise specified.)

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	50	V
Collector Emitter Voltage	$-V_{CEO}$	50	V
Emitter Base Voltage	$-V_{EBO}$	3	V
Collector Current	$-I_C$	100	mA
Peak Collector Current	$-I_{CM}$	200	mA
Power Dissipation	P_{tot}	350	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_S	- 55 to + 150	°C

Electrical Characteristics (Rating at 25℃ ambient temperature unless otherwise specified.)

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}	 250 250 250	 800 - -	 - - -
Collector Cutoff Current at $-V_{CB}$ = 35 V	$-I_{CBO}$	-	50	nA
Emitter Cutoff Current at $-V_{EB}$ = 3 V	$-I_{EBO}$	-	50	nA
Collector Base Breakdown Voltage at $-I_C$ = 100 µA	$-V_{(BR)CBO}$	50	-	V
Collector Emitter Breakdown Voltage at $-I_C$ = 1 mA	$-V_{(BR)CEO}$	50	-	V
Emitter Base Breakdown Voltage at $-I_E$ = 100 µA	$-V_{(BR)EBO}$	3	-	V
Collector Emitter Saturation Voltage at $-I_C$ = 10 mA, $-I_B$ = 1 mA	$-V_{CE(sat)}$	-	0.3	V
Base Emitter On Voltage at $-V_{CE}$ = 5 V, $-I_C$ = 1 mA	$-V_{BE(on)}$	-	0.85	V
Transition Frequency at $-V_{CE}$ = 5 V, I_E = 0.5 mA, f = 100 MHz	f_T	40	-	MHz
Collector Base Capacitance at $-V_{CE}$ = 5 V, I_E = 0 , f = 100 KHz	C_{cb}	-	4	pF

Rating And Characteristic Curves

Fig 1. Typical Pulsed Current Gain vs Collector Current

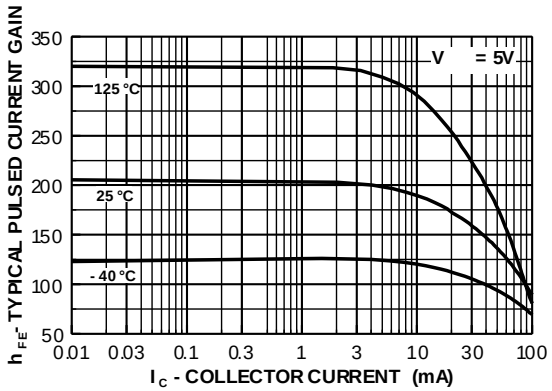


Fig 2. Collector-Emitter Saturation Voltage vs Collector Current

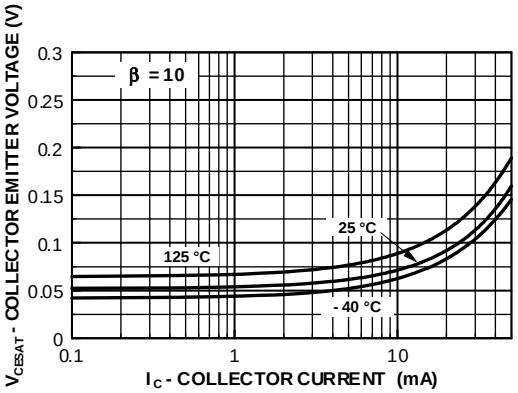


Fig 3. Base-Emitter Saturation Voltage vs Collector Current

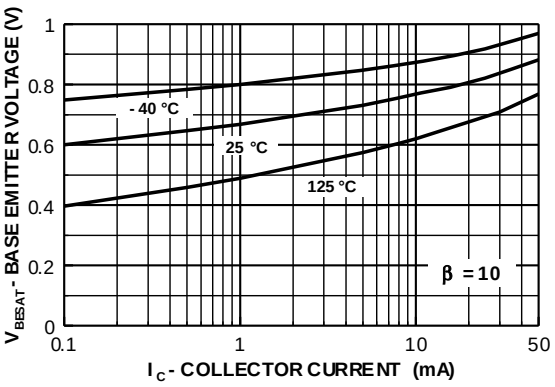


Fig 4. Base-Emitter On Voltage vs Collector Current

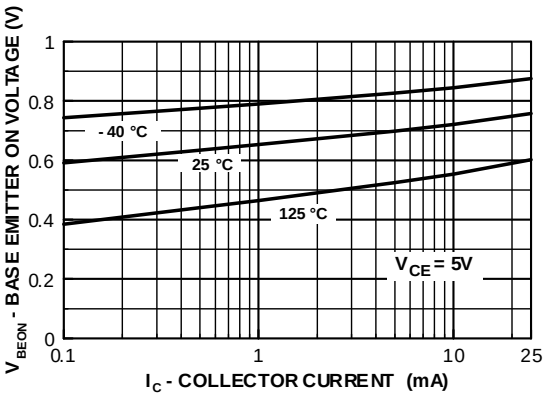


Fig 5. Collector Cutoff Current vs Ambient Temperature

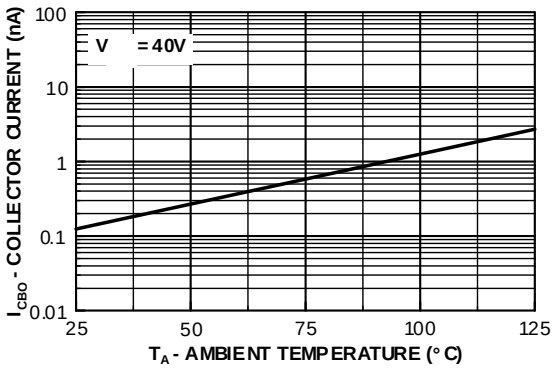
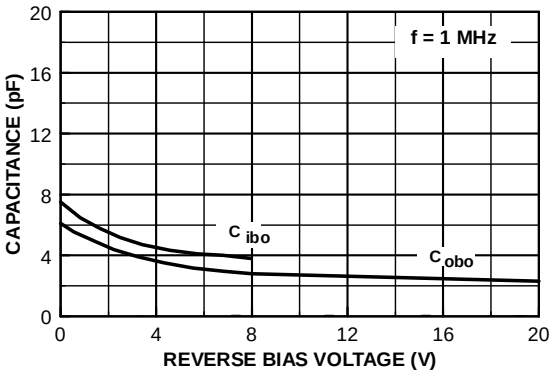


Fig 6. Input and Output Capacitance vs Reverse Voltag



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