

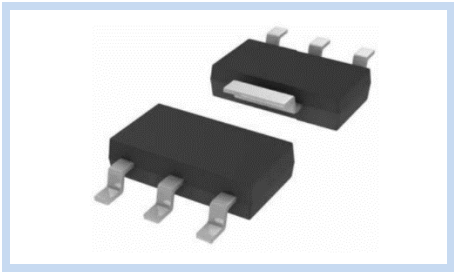
NPN Transistor
80V 1.5W SOT-223

BCP56-16

MERITEK

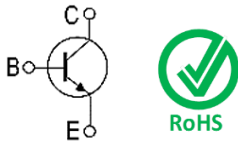
FEATURE

- High Collector-Emitterbreakdien Voltage.
- Capable of 1.5W Power Dissipation
- Applications: Medium Voltage Load Switch Transistor, Output Stage for Audio Amplifiers Circuits, Automotive Post-Voltage Regulation



MECHANICAL DATA

- Case: Molded Plastic, SOT-223
- Epoxy : UL94V-0 Rated Flame Retardant
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026

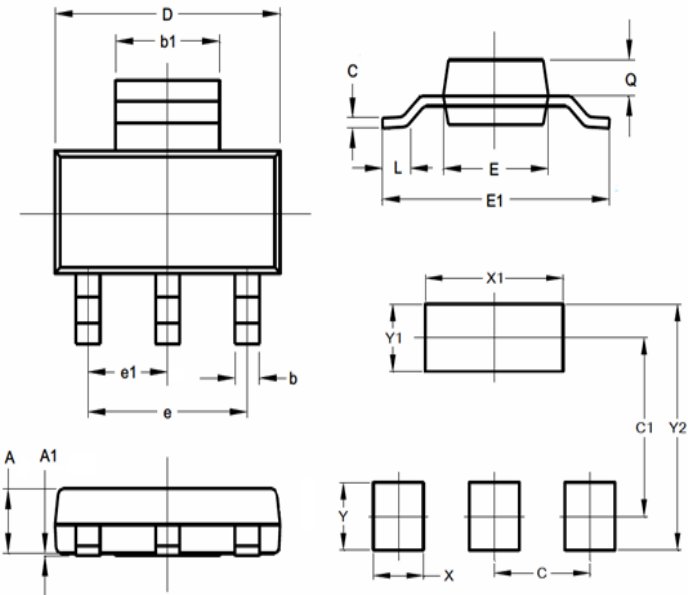


MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	80	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_c	1	A
Power Dissipation	P_{tot}	1.5	W
Typical Thermal Resistance-Junction to Ambient	$R_{\theta JA}$	83.3	$^{\circ}C/W$
Junction Temperature & Storage Temperature Range	$T_J T_{stg}$	-55 ~+150	$^{\circ}C$

DIMENSIONS

Item	Min (mm)	Max (mm)
A	1.50	1.80
A1	0.008	0.014
Q	1.28	1.45
b	0.60	0.84
b1	2.90	3.10
C	0.22	0.35
D	6.30	6.70
e	4.80	
e1	2.40	
E	3.30	3.70
E1	6.70	7.30
L	0.7	1.25
X	1.5	
X1	3.8	
Y	2.0	
Y1	2.0	
Y2	8.3	
c	2.3	
c1	6.3	



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ELECTRICAL CHARACTERISTICS

Parameter- ON Characteristic	Conditions	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain	$V_{CE}=2V, I_C=5mA$	h_{FE}	25	-	-	-
	$V_{CE}=2V, I_C=150mA$		100	-	250	
	$V_{CE}=2V, I_C=500mA$		25	-	-	
Collector-Emitter Saturation Voltage	$I_C=500mA, I_B=50mA$	$V_{CE(SAT)}$	-	-	0.5	V
Base-Emitter Saturation Voltage	$V_{CE}=2V, I_C=500mA$	V_{BE}	-	-	1.0	V
Parameter- OFF Characteristics	Conditions	Symbol	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$I_C=100\mu A, I_E=0$	$V_{(BR)CBO}$	100	-	-	V
Collector-Emitter Breakdown Voltage	$I_C=10mA, I_B=0$	$V_{(BR)CEO}$	80	-	-	V
Emitter-Base Breakdown Voltage	$I_E=10\mu A, I_C=0$	$V_{(BR)EBO}$	5	-	-	V
Collector Base Cut-Off Current	$V_{CB}=30V, I_E=0$	I_{CBO}	-	-	0.1	μA

Note:

1. $T_A=25^{\circ}C$ unless otherwise noted

2. Device mounted on FR-4 PCB 1.575 x 1.575 x 0.0625 inch; mounting pad for collector = 0.93 in²

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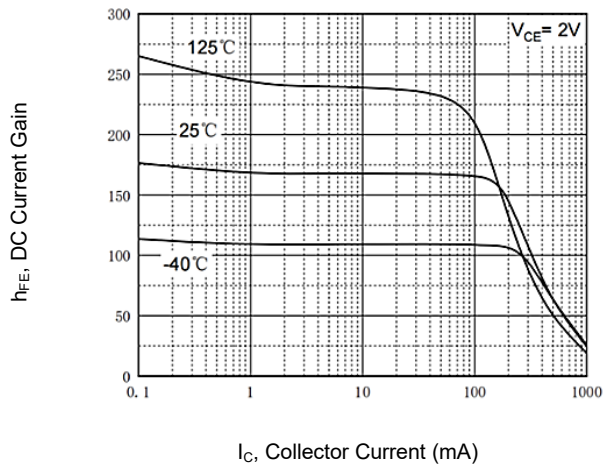
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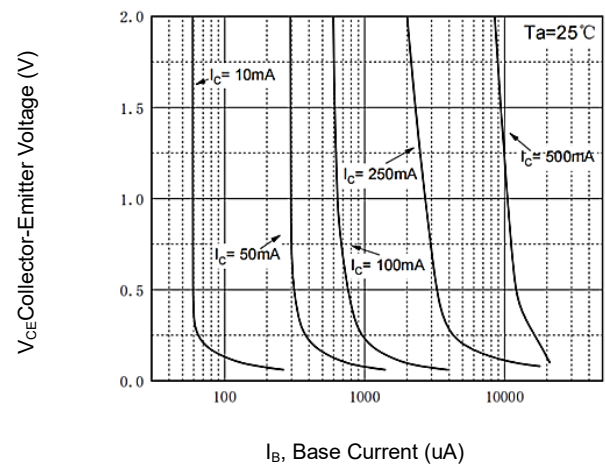
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CHARACTERISTIC CURVES

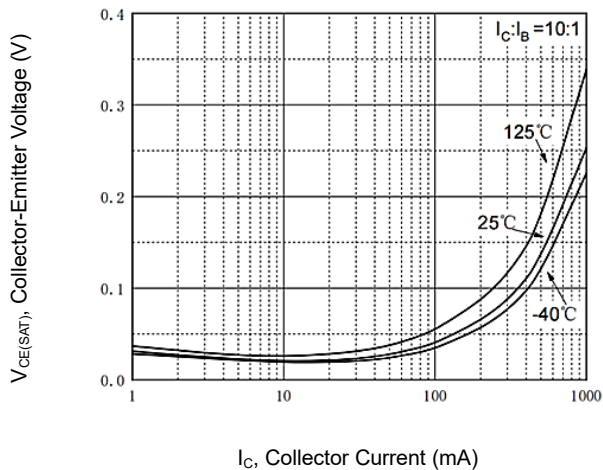
DC Current Gain



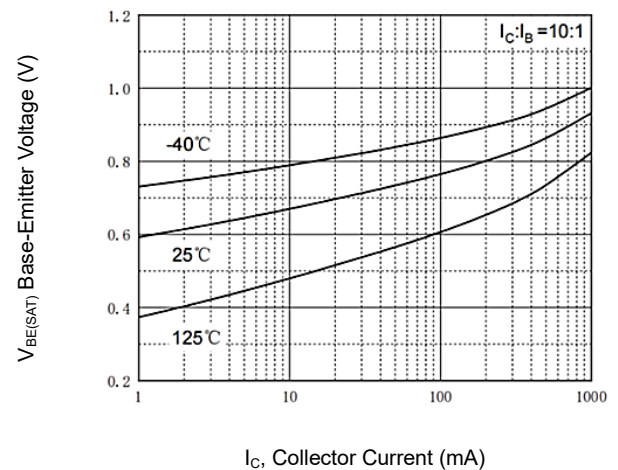
Collector Saturation Region



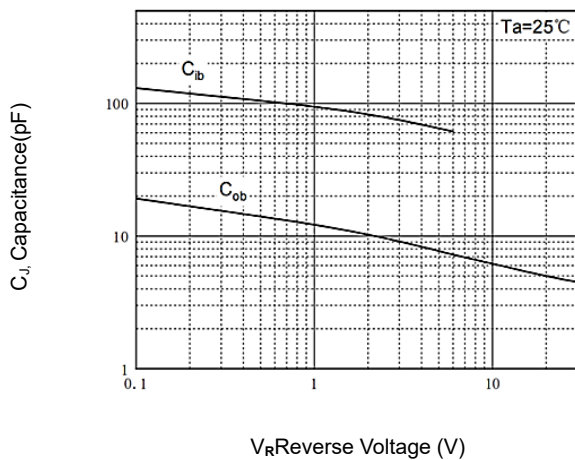
Collector-Emitter Voltage vs .Collector Current



Base-Emitter Saturation Voltage



Capacitance



Power Derating Curves

