

NPN Transistor

45V 200mW SOT-23

BC817 Series

MERITEK

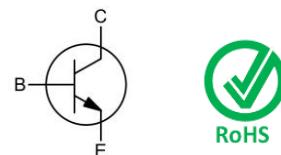
FEATURE

- Low Power Loss, High Efficiency
- Application: AF driver, Switching and Amplifier
- Multiple DC Current Gain Available: hFE 16, 25, 40



MECHANICAL DATA

- Case: SOT-23, molded plastic
- Terminals: Solderable per MIL-STD-750, Method 2026

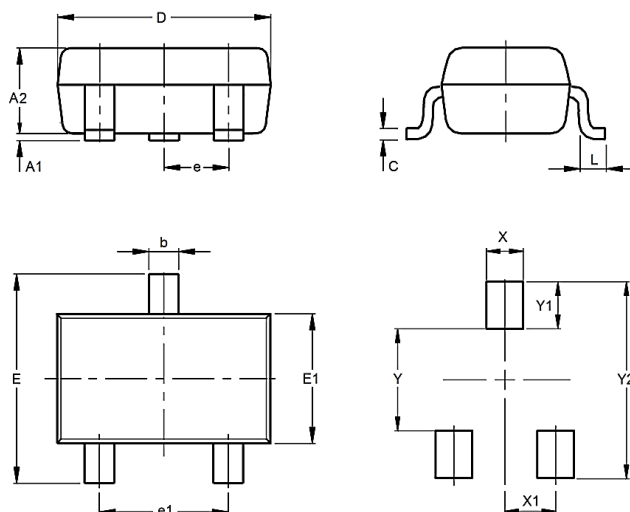


MAXIMUM RATING

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	45	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	500	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{stg}	-55 ~+150	°C

DIMENSIONS

Item	Min (mm)	Max (mm)
A1	--	0.10
A2	0.79	1.40
b	0.30	0.50
c	0.08	0.20
D	2.70	3.10
e	0.89	1.02
e1	1.78	2.04
E	2.10	2.80
E1	1.20	1.60
L	0.15	--
X	0.80	
X1	0.95	
Y	1.22	
Y1	0.8	
Y2	2.82	



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ELECTRICAL CHARACTERISTICS

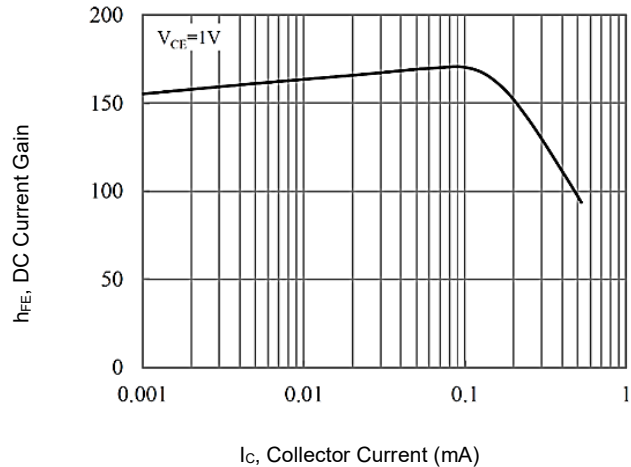
Parameter- ON Characteristic		Conditions	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain	BC817-16	$V_{CE} = 1V, I_C = 100mA$	h_{FE}	100	-	250	-
	BC817-25			160	-	400	
	BC817-40			250	-	600	
	-	$V_{CE} = 1V, I_C = 500mA$		40	-	-	
Collector-Emitter Saturation Voltage		$I_C = 500mA, I_B = 50mA$	$V_{CE(SAT)}$	-	-	0.7	V
Base-Emitter Saturation Voltage		$V_{CE} = 1V, I_C = 500mA$	$V_{BE(SAT)}$	-	-	1.2	V
Parameter- OFF Characteristics		Conditions	Symbol	Min.	Typ.	Max.	Unit
Collector Base Cut-Off Current		$V_{CB} = 20V$	I_{CBO}	-	-	100	nA
Emitter Base Cut-Off Current		$V_{EB} = 5V$	I_{EBO}	-	-	100	nA
Output Capacitance		$V_{CB} = 10V, f = 1MHz$	C_{ob}	-	5	-	pF
Parameter-Small Signal		Conditions	Symbol	Min.	Typ.	Max.	Unit
Current-Gain – Bandwidth Product		$I_C = 10mA, V_{CE} = 5V, f = 50MHz$	f_T	100	-	-	MHz

Note:

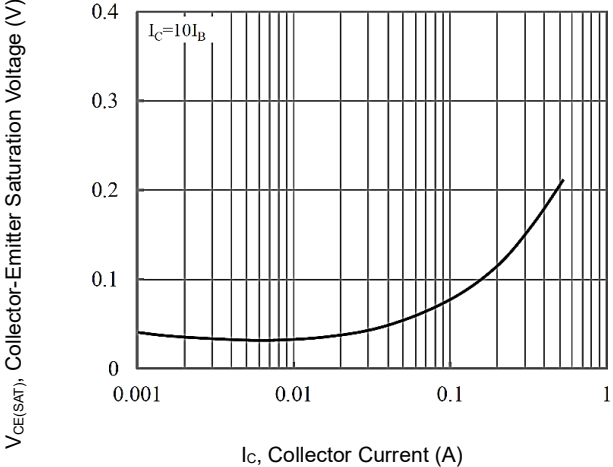
1. $T_A = 25^\circ C$ unless otherwise noted

CHARACTERISTIC CURVES

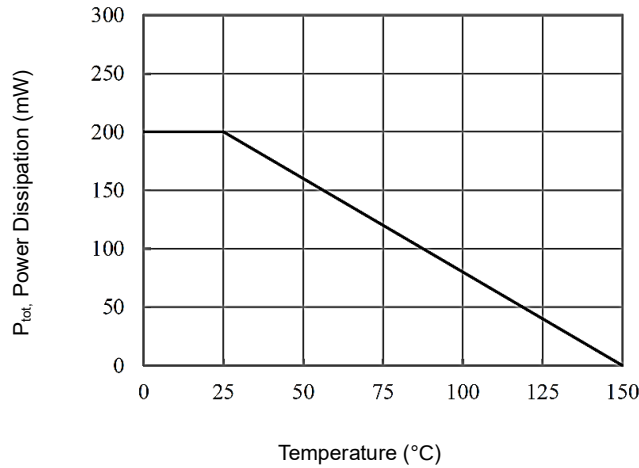
Current Gain



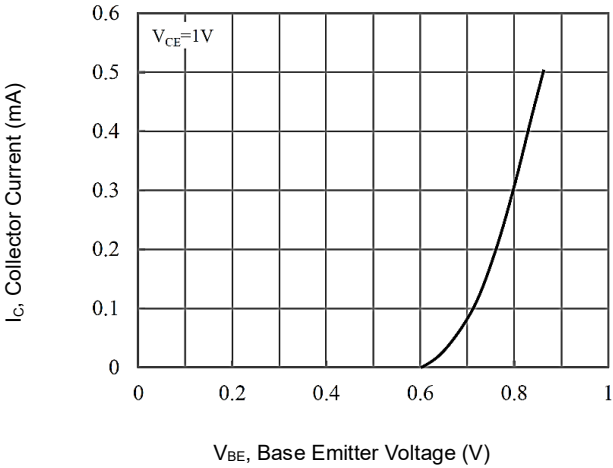
Collector-Emitter Saturation Voltage



Power Derating Curves



Base Emitter On Voltage



*Specifications subject to change without notice.