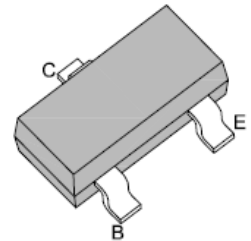


SMD General Purpose Transistor (NPN)

Features

- NPN Silicon Epitaxial Planar Transistor for Switching and Amplifier Applications



Mechanical Data

Case:	SOT-23, Plastic Package
Terminals:	Solderable per MIL-STD-202G, Method 208
Weight:	0.008 gram

SOT-23



Marking Information

	BC846A	BC846B	BC847A	BC847B	BC847C	BC848A	BC848B	BC848C
Marking Code	1A	1B	1E	1F	1G	1J	1K	1L

Maximum Ratings ($T_{Ambient}=25^{\circ}\text{C}$ unless noted otherwise)

Symbol	Description	BC846	BC847	BC848	Unit	Conditions
V_{CBO}	Collector-Base Voltage	80	50	30	V	
V_{CEO}	Collector-Emitter Voltage	65	45	30	V	
V_{EBO}	Emitter-Base Voltage	6	6	5	V	
I_C	Collector Current	100			mA	
P_{tot}	Power Dissipation	350			mW	Note 1
T_J	Junction Temperature	150			$^{\circ}\text{C}$	
T_{STG}	Storage Temperature Range	-55 to +150			$^{\circ}\text{C}$	

Note: 1. Package mounted on 99.5% Alumina 10 x 8 x 0.6mm.

SMD General Purpose Transistor (NPN)

BC846/BC847/BC848

Electrical Characteristics ($T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Description		Min.	Typ.	Max.	Unit	Conditions
ICBO	Collector-Emitter Cut-off Current		-	-	15	nA	$V_{CB}=30V, I_E=0$
hFE	D.C. Current Gain	BC846/7/8, Suffix 'A'	-	90	-		$V_{CE}=5V, I_C=10\mu A$
		BC846/7/8, Suffix 'B'	-	150	-		
		BC847/8, Suffix 'C'	-	270	-		
		BC846/7/8, Suffix 'A'	110	180	220		$V_{CE}=5V, I_C=2mA$
		BC846/7/8, Suffix 'B'	200	290	450		
		BC847/8, Suffix 'C'	420	520	800		
VCE(sat)	Collector-Emitter Saturation Voltage		-	0.09	0.25	V	$I_C=10mA, I_B=0.5mA$
			-	0.2	0.6		$I_C=100mA, I_B=5mA$
VBE(sat)	Base-Emitter Saturation Voltage		-	0.7	-	V	$I_C=10mA, I_B=0.5mA$
			-	0.9	-		$I_C=100mA, I_B=5mA$
VBE(on)	Base-Emitter On Voltage		0.58	0.66	0.7	V	$V_{CE}=5V, I_C=2mA$
			-	-	0.75		$V_{CE}=5V, I_C=10mA$
fT	Current Gain-Bandwidth Product		-	300	-	MHz	$V_{CE}=5V, I_C=10mA, f=100MHz$
Cob	Collector Output Capacitance		-	2.5	4.5	pF	$V_{CB}=10V, I_E=0, f=1MHz$
NF	Noise Figure		-	1.0	10	dB	$V_{CE}=5V, I_C=0.2mA, R_G=2K\Omega, f=1KHz$

SMD General Purpose Transistor (NPN)

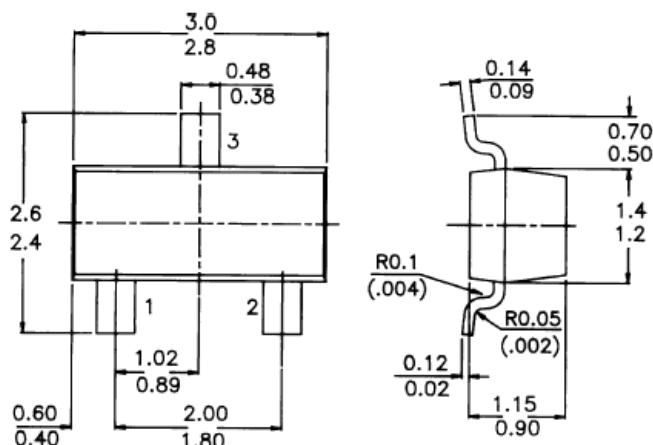
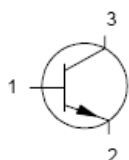
BC846/BC847/BC848

Dimensions in mm

SOT-23

Pin configuration

- 1 = BASE
- 2 = EMITTER
- 3 = COLLECTOR



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