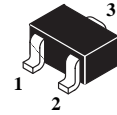
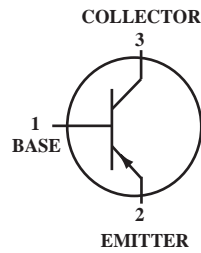


## General Purpose Transistor

### PNP Silicon

 Lead(Pb)-Free



SOT-323(SC-70)

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

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	$V_{CEO}$	-45	V
Collector-Base Voltage	$V_{CBO}$	-50	V
Emitter-Base Voltage	$V_{EBO}$	-5.0	V
Collector Current-Continuous	$I_C$	500	mA
Total Device Dissipation FR-5 Board <sup>(1)</sup> $T_A=25^\circ\text{C}$	$P_D$	150	mW
Thermal Resistance, Junction to Ambient <sup>(1)</sup>	$R_{\theta JA}$	833	$^\circ\text{C}/\text{W}$
Junction Temperature Range	$T_J$	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to +150	$^\circ\text{C}$

### Device Marking

BC807-16W = 5A, BC807-25W = 5B, BC807-40W = K>

1. FR-5 = 1.0 x 0.75 x 0.062 in.

**Electrical Characteristics**( $T_A=25^{\circ}\text{C}$  Unless Otherwise noted)

Characteristics	Symbol	Min	Typ	Max	Unit
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**Off Characteristics**

Collector-Emitter Breakdown Voltage $I_C=-10\text{mA}$	$V_{(BR)CEO}$	-45	-	-	V
Collector-Base Breakdown Voltage $I_C=-10\mu\text{A}$	$V_{(BR)CBO}$	-50	-	-	V
Emitter-Base Breakdown Voltage $I_E=-1.0\mu\text{A}$	$V_{(BR)EBO}$	-5.0	-	-	V
Collector Cutoff Current $V_{CB}=-20\text{V}$	$I_{CBO}$	-	-	-0.1	$\mu\text{A}$
Collector Cutoff Current $V_{CE}=-20\text{V}$	$I_{CBO}$	-	-	-0.2	$\mu\text{A}$
Collector Cutoff Current $V_{EB}=-5\text{V}$	$I_{CBO}$	-	-	-0.1	$\mu\text{A}$

**On Characteristics**

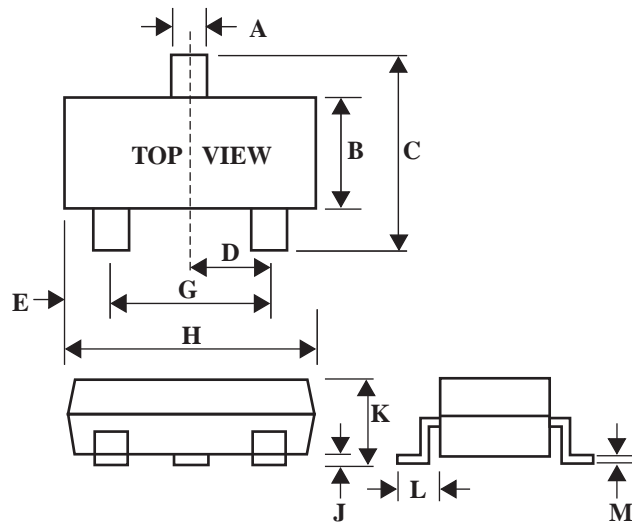
DC Current Gain $I_C=-100\text{mA}, V_{CE}=-1.0\text{V}$	BC807-16W BC807-25W BC807-40W	$h_{FE}$	100 160 250	- - -	250 400 600	-
$I_C=-500\text{mA}, V_{CE}=-1.0\text{V}$			40	-	-	
Collector-Emitter Saturation Voltage $I_C=-500\text{mA}, I_B=-50\text{mA}$		$V_{CE(sat)}$	-	-	-0.7	V
Base-Emitter On Voltage $I_C=-500\text{mA}, V_{CE}=-1.0\text{V}$		$V_{BE(on)}$	-	-	-1.2	V

**Small-signal Characteristics**

Current-Gain-Band width Product $I_C=-10\text{mA}, V_{CE}=-5.0\text{V}, f=100\text{MHz}$		$f_T$	80	-	-	MHz
Output Capacitance $V_{CB}=-10\text{V}, f=1.0\text{MHz}$		$C_{ob}$	-	-	10	pF

## SOT-323 Outline Demensions

Unit:mm



SOT-323		
Dim	Min	Max
A	0.30	0.40
B	1.15	1.35
C	2.00	2.40
D	-	0.65
E	0.30	0.40
G	1.20	1.40
H	1.80	2.20
J	0.00	0.10
K	0.80	1.00
L	0.42	0.53
M	0.10	0.25