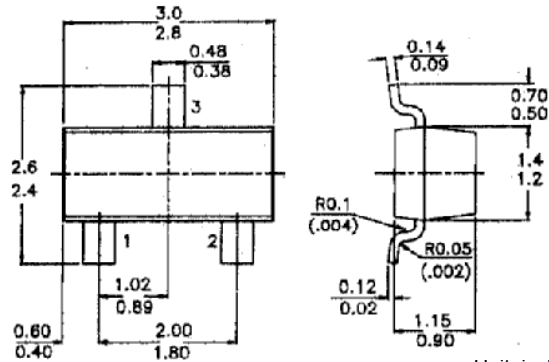
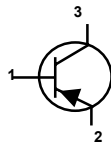


PNP Silicon Planar Epitaxial Transistors

Pin configuration:
1. BASE
2. EMITTER
3. COLLECTOR



Unit: inch (mm)

Absolute Maximum Ratings (Ta = 25 °C unless specified otherwise)

DESCRIPTION	SYMBOL	BC856	BC857	BC858	UNITS
Collector Base Voltage	V_{CBO}	80	50	30	V
Collector Emmitter Voltage (+V _{BE} = 1V)	V_{CEX}	80	50	30	V
Collector Emitter Voltage	V_{CEO}	65	45	30	V
Emitter Base Voltage	V_{EBO}		5		V
Collector Current (DC)	I_C		100		mA
Collector Current - Peak	I_{CM}		200		mA
Emitter Current - Peak	I_{EM}		200		mA
Base Current - Peak	I_{BM}		200		mA
Total power dissipation up to T _{amb} = 60 °C	P_{tot}^{**}		250		mW
Storge Temperature	Tstg		-55 to +150		°C
Junction Temperature	Tj		150		°C

Thermal Resistance

From junction to tab	$R_{th(j-t)}$	60	K/W
From tab to soldering points	$R_{th(t-s)}$	280	
From soldering points to ambient	$R_{th(s-a)}^{**}$	90	

**Mounted on a ceramic substrate of 8mm x 10mm x 0.7mm

Electrical Characteristics (at Ta=25 °C unless otherwise specified)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
Collector Cut Off Current	I_{CBO}	$V_{CB} = 30V, I_E = 0$ $V_{CB} = 30V, I_E = 0, T_j = 150^{\circ}C$		15 4	nA uA	
Base Emitter On Voltage	$V_{BE(on)}^*$	$I_C = 2mA, V_{CE} = 5V$ $I_C = 10mA, V_{CE} = 5V$	0.6	0.75 0.82	V	
Collector Emitter Saturation Voltage	$V_{CE(Sat)}$	$I_C = 10mA, I_B = 0.5mA$ $I_C = 100mA, I_B = 5mA$		0.30 0.65	V	
Base Emitter Saturation Voltage	$V_{BE(Sat)}^{***}$	$I_C = 10mA, I_B = 0.5mA$ $I_C = 100mA, I_B = 5mA$	0.7 0.85		V	
Knee Voltage	V_{CEK}	$I_C = 10mA, -I_B = \text{Value for which}$ $I_C = 11mA \text{ at } -V_{CE} = 1V$		0.60	V	
DC Current Gain	h_{FE}	$I_C = 2mA, V_{CE} = 5V$ BC856 BC857/BC858 BC856A/BC857A/BC858A BC856B/BC857B/BC858B BC857C/BC858C	125 125 125 220 420	475 800 250 475 800		
Collector Capacitance	C_C	$I_E = I_C = 0, V_{CB} = 10V, f = 1MHz$		4.5	pF	
Transition Frequency	f_T	$I_C = 10mA, V_{CB} = 5V, f = 100MHz$	100		MHz	
Small Signal Current Gain	$ h_{fe} $	$I_C = 2mA, V_{CE} = 5V, f = 1kHz$ BC856 BC857/BC858	125 125	500 800		
Noise Figure	NF	$I_C = 0.2mA, V_{CE} = 5V$ $R_S = 2k \text{ ohm}, f = 1kHz, B = 200Hz$		10	dB	

* $V_{BE(on)}$ decreases by about 2mV/K with increase temperature.

*** $V_{BE(Sat)}$ decreases by about 1.7mV/K with increase temperature.

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