



DESCRIPTION

NPN Silicon

The BC817-16L, BC817-25L and BC817-40L is available in SOT-23 Package

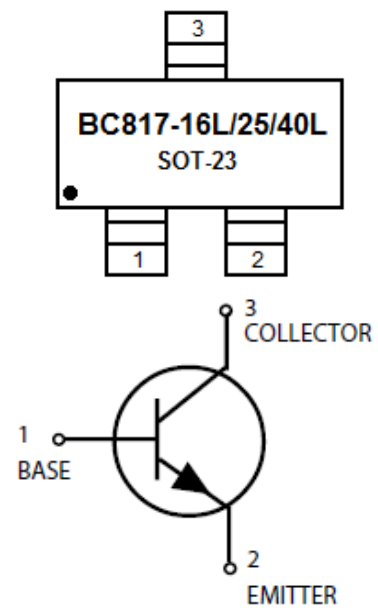
ORDERING INFORMATION

Package Type	Part Number
SOT-23	BC817-16L
	BC817-25L
	BC817-40L
Note	3,000pcs/Reel
AiT provides all RoHS Compliant Products	

FEATURES

- Available in SOT-23 Package

PIN DESCRIPTION





ABSOLUTE MAXIMUM RATINGS

V _{CEO} , Collector–Emitter Voltage	45V
V _{CBO} , Collector–Base Voltage	50V
V _{EBO} , Emitter–Base Voltage	5.0V
I _C , Collector Current — Continuous	500mA _{dc}

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

THERMAL CHARACTERISTICS

Parameter	Symbol	Max.	Unit
Total Device Dissipation FR– 5 Board ^{Note1} T _A = 25°C Derate above 25°C	P _D	225 1.8	mW mW/°C
Thermal Resistance, Junction to Ambient	R _{θJA}	556	°C/W
Total Device Dissipation Alumina Substrate ^{Note2} T _A = 25°C Derate above 25°C	P _D	300 2.4	mW mW/°C
Thermal Resistance, Junction to Ambient	R _{θJA}	417	°C/W
Junction and Storage Temperature	T _J , T _{STG}	–55 to +150	°C

NOTE1: FR–5 = 1.0 x 0.75 x 0.062 in.

NOTE2: Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.



ELECTRICAL CHARACTERISTICS

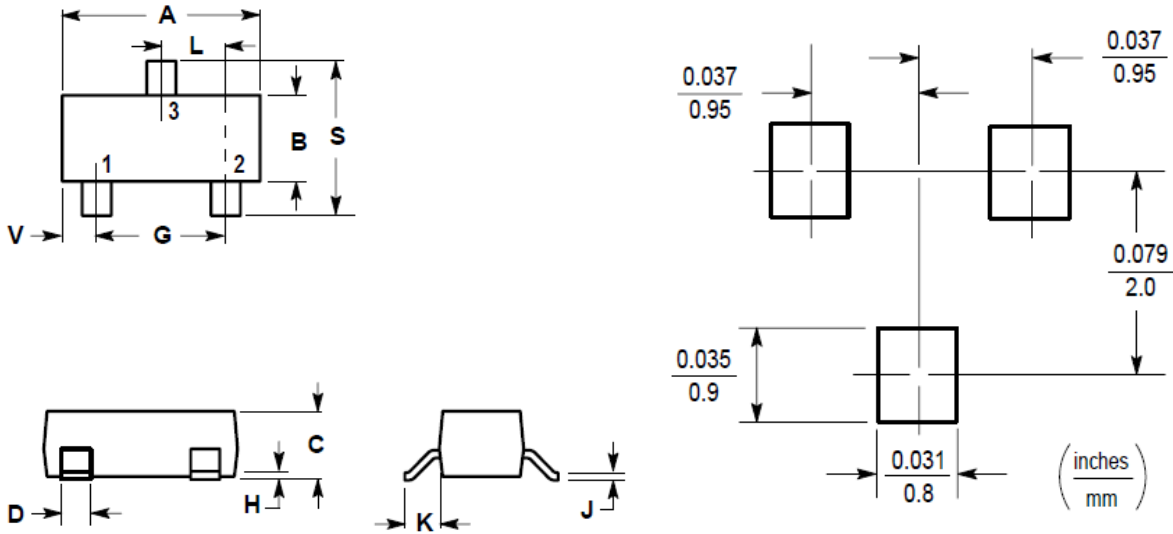
T_A = 25°C unless otherwise noted

Parameter	Symbol	Conditions	Min	Typ	Max	Unit	
OFF CHARACTERISTICS							
Collector–Emitter Breakdown Voltage	V _{(BR)CEO}	I _C = 10mA	45	-	-	V	
Collector–Emitter Breakdown Voltage	V _{(BR)CES}	V _{EB} = 0, I _C = 10μA	50	-	-	V	
Emitter–Base Breakdown Voltage	V _{(BR)EBO}	I _E = 1.0μA	5.0	-	-	V	
Collector Cutoff Current	I _{CBO}	V _{CB} = 20V	-	-	100	nA	
		V _{CB} = 20V, T _J = 150°C	-	-	5.0	μA	
ON CHARACTERISTICS							
DC Current Gain	h _{FE}	I _C = 100mA, V _{CE} = 1.0V	BC817–16L	100	-	250	-
			BC817–25L	160	-	400	-
			BC817–40L	250	-	600	-
		I _C = 500mA, V _{CE} = 1.0V	40	-	-	-	
Collector–Emitter Saturation Voltage	V _{CE(SAT)}	I _C = 500mA, I _B = 50 mA	-	-	0.7	V	
Base–Emitter On Voltage	V _{BE(ON)}	I _C = 500mA, V _{CE} = 1.0V	-	-	1.2	V	
SMALL–SIGNAL CHARACTERISTICS							
Current–Gain — Bandwidth Product	f _T	I _C = 10mA, V _{CE} = 5.0Vdc, f = 100MHz	100	-	-	MHz	
Output Capacitance	C _{OBO}	V _{CB} = 10V, f = 1.0MHz	-	10	-	pF	



PACKAGE INFORMATION

Dimension in SOT-23 Package (Unit: mm)



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.80	3.04	0.1102	0.1197
B	1.20	1.40	0.0472	0.0551
C	0.89	1.11	0.0350	0.0440
D	0.37	0.50	0.0150	0.0200
G	1.78	2.04	0.0701	0.0807
H	0.013	0.100	0.0005	0.0040
J	0.085	0.177	0.0034	0.0070
K	0.35	0.69	0.0140	0.0285
L	0.89	1.02	0.0350	0.0401
S	2.10	2.64	0.0830	0.1039
V	0.45	0.60	0.0177	0.0236



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