



DESCRIPTION

The BC817-40W is available in SC-70 Package.

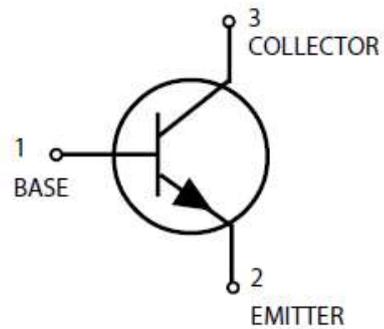
FEATURES

- Available in SC-70 Package.

ORDERING INFORMATION

Package Type	Part Number
SC-70	BC817-40W
Note	SPQ: 3,000pcs/Reel
AiT provides all RoHS Compliant Products	

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	150 1.2	mW mW/°C
Thermal Resistance, Junction to Ambient	R _{θJA}	833	°C/W
Total Device Dissipation Alumina Substrate ^{NOTE2} T _A = 25°C Derate above 25°C	P _D	200 1.6	mW mW/°C
Thermal Resistance, Junction to Ambient	R _{θJA}	625	°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

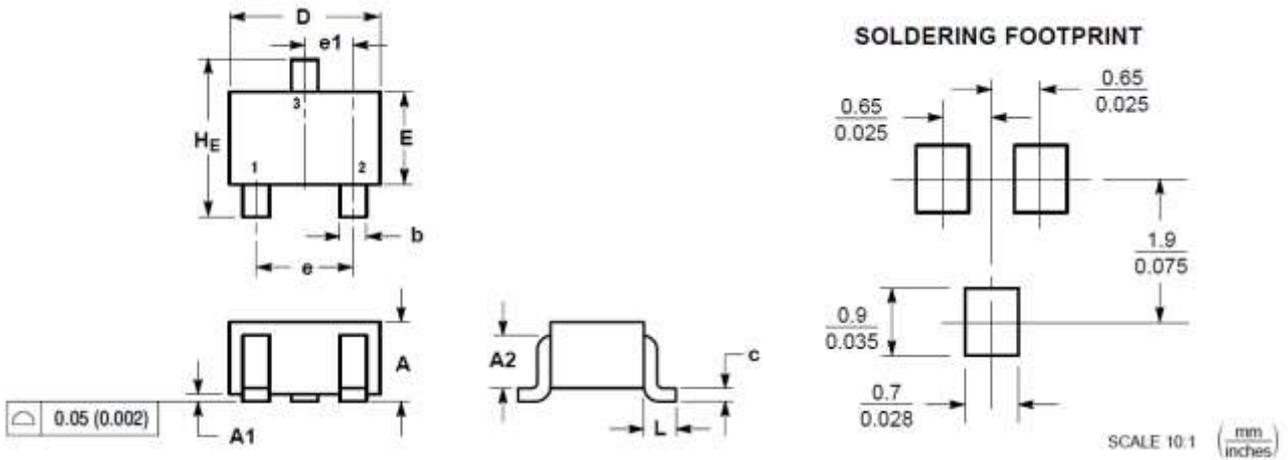
T_A = 25°C unless otherwise noted

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 _A = 150°C	-	-	5.0	μA
ON CHARACTERISTICS						
DC Current Gain	h _{FE}	I _C = 100mA, V _{CE} = 1.0V	250	-	600	-
		I _C = 500mA, V _{CE} = 1.0V	40	-	-	-
Collector–Emitter Saturation Voltage	V _{CE(sat)}	I _C = 500mA, I _B = 50mA	-	-	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 SC-70 Package (Unit: mm)



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.80	1.00	0.032	0.040
A1	0.00	0.10	0.000	0.004
A2	0.70 REF		0.028 REF	
b	0.30	0.40	0.012	0.016
c	0.10	0.25	0.004	0.010
D	1.80	2.20	0.071	0.087
E	1.15	1.35	0.045	0.053
e	1.20	1.40	0.047	0.055
e1	0.65 BSC		0.026 BSC	
L	0.425 REF		0.017 REF	
HE	2.00	2.40	0.079	0.095



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