

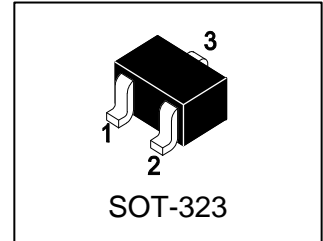
# BC817-40W

## S-BC817-40W

NPN Silicon General Purpose Transistors

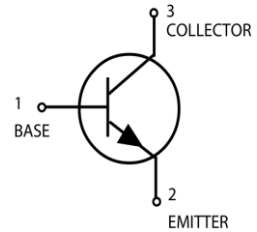
### 1. FEATURES

- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- S- prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.



### 2. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
BC817-40W	YM	3000/Tape&Reel



### 3. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Collector–Emitter Voltage	V <sub>CEO</sub>	45	V
Collector–Base Voltage	V <sub>CBO</sub>	50	V
Emitter–Base Voltage	V <sub>EBO</sub>	5	V
Collector Current(Continuous)	I <sub>C</sub>	500	mA

### 4. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Total Device Dissipation FR-5 Board (Note 1) TA = 25°C	PD	150	mW
Derate above 25°C		1.2	mW/°C
Thermal Resistance, Junction to Ambient	R <sub>θJA</sub>	833	°C/W
Total Device Dissipation Alumina Substrate (Note 2) TA = 25°C	PD	200	mW
Derate above 25°C		1.6	mW/°C
Thermal Resistance, Junction to Ambient	R <sub>θJA</sub>	625	°C/W
Junction and Storage Temperature	T <sub>J</sub> , T <sub>stg</sub>	-55~+150	°C

1. FR-5 = 1.0 × 0.75 × 0.062 in.

2. Alumina = 0.4 × 0.3 × 0.024 in. 99.5% alumina.

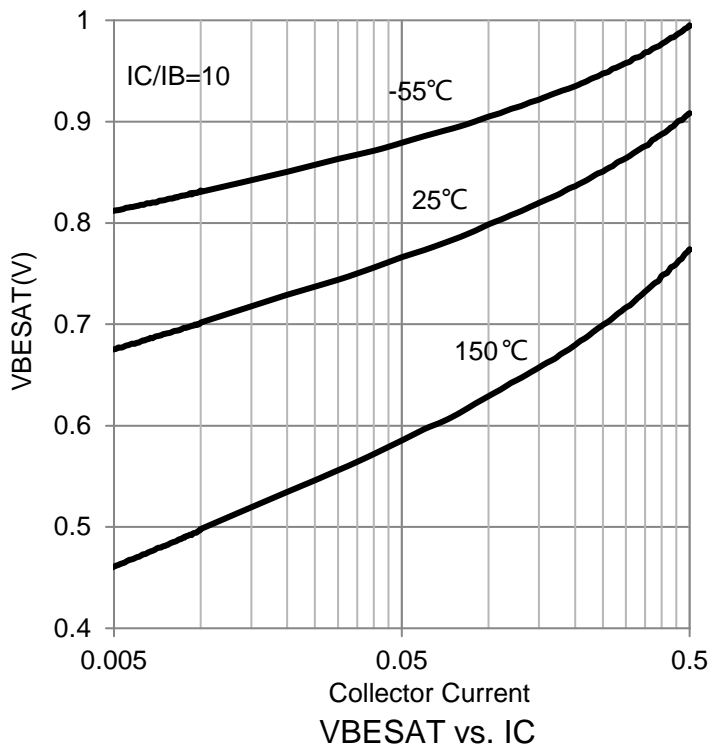
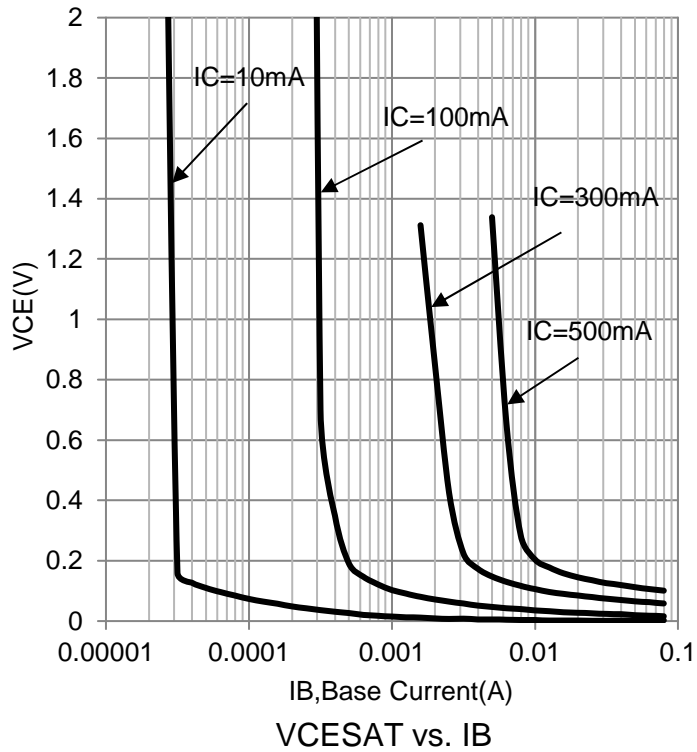
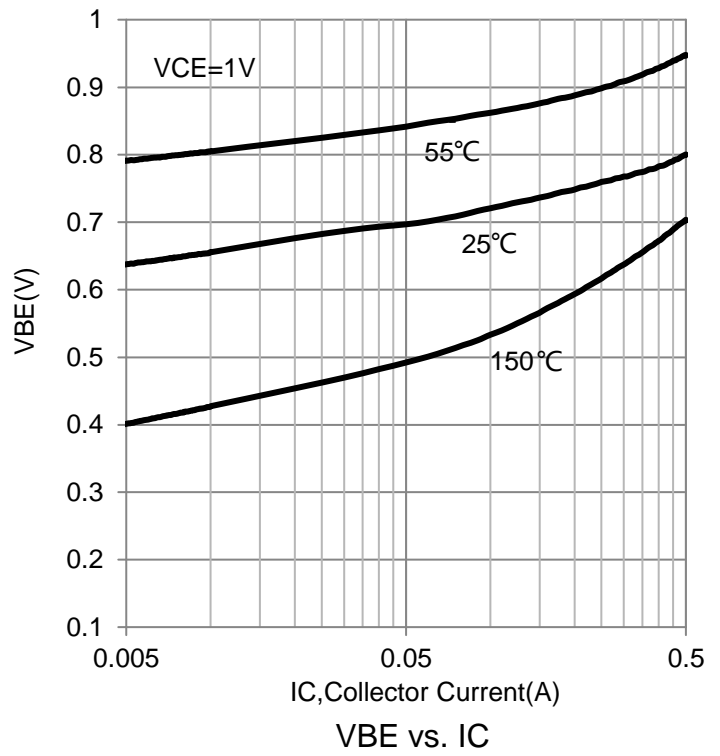
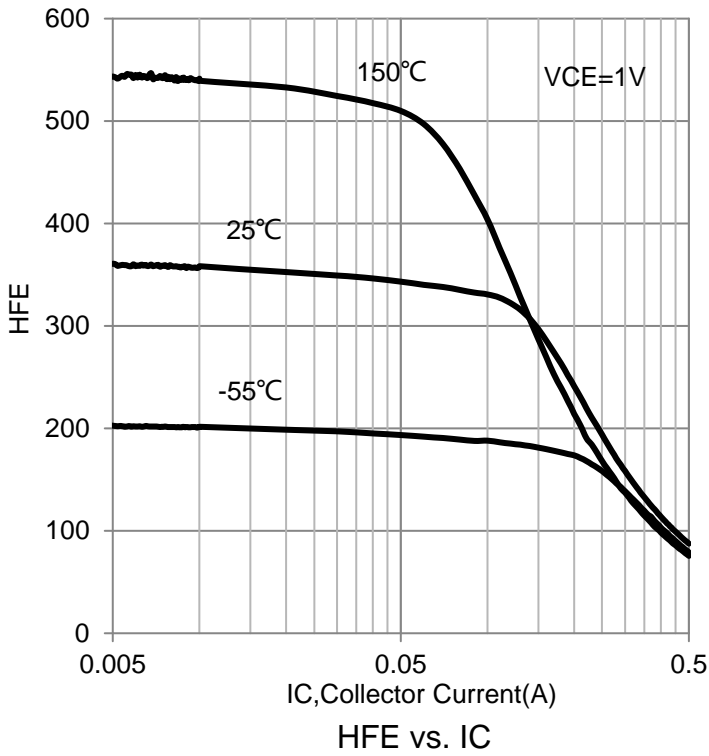


## 5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

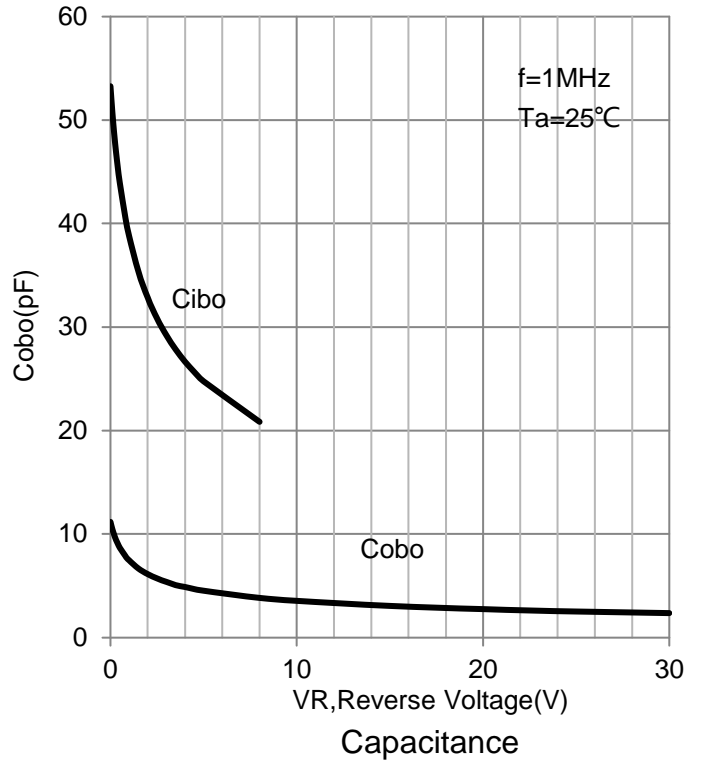
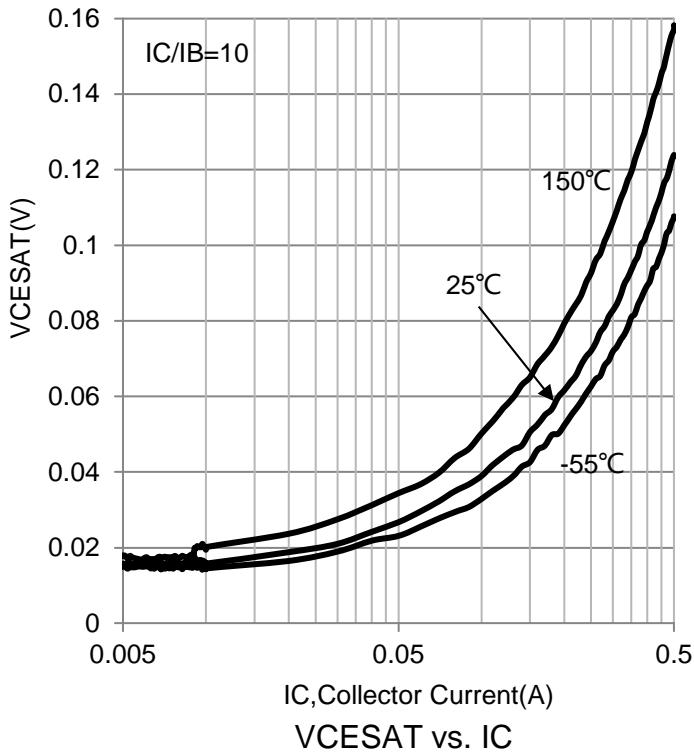
Characteristic	Symbol	Min.	Typ.	Max.	Unit
OFF CHARACTERISTICS					
Collector–Emitter Breakdown Voltage (IC = 10 mA)	V(BR)CEO	45	-	-	V
Collector–Emitter Breakdown Voltage (IC = 10 μA, VEB = 0)	V(BR)CES	50	-	-	V
Emitter–Base Breakdown Voltage (IE = 1.0 μA)	V(BR)EBO	5	-	-	V
Collector Cutoff Current (VCB = 20 V) (VCB = 20 V, TA = 150°C)	ICBO	- -	- -	100 5	nA μA
ON CHARACTERISTICS					
DC Current Gain (IC = 100 mA, VCE = 1.0 V) (IC = 500 mA, VCE = 1.0 V)	hFE	250 40	- -	600 -	
Collector–Emitter Saturation Voltage (IC = 500 mA, IB = 50 mA)	VCE(sat)	-	-	0.7	V
Base–Emitter Voltage (IC = 500 mA, VCE = 1.0 V)	VBE(on)	-	-	1.2	V
SMALL–SIGNAL CHARACTERISTICS					
Current–Gain — Bandwidth Product (IC = 10 mA, VCE = 5.0 V, f = 100 MHz)	fT	100	-	-	MHz
Output Capacitance (VCB = 10 V, f = 1.0 MHz)	Cobo	-	10	-	pF



6.ELECTRICAL CHARACTERISTICS CURVES



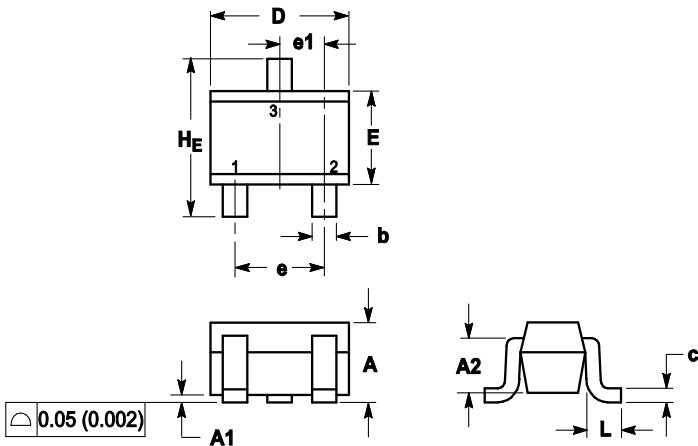
6.ELECTRICAL CHARACTERISTICS CURVES(Con.)



**7.OUTLINE AND DIMENSIONS**

Notes:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.90	1.00	0.032	0.035	0.039
A1	0.00	0.05	0.10	0.000	0.002	0.004
A2	0.70REF			0.028REF		
b	0.30	0.35	0.40	0.012	0.014	0.016
c	0.10	0.18	0.25	0.004	0.007	0.010
D	1.80	2.10	2.20	0.071	0.083	0.087
E	1.15	1.24	1.35	0.045	0.049	0.053
e	1.20	1.30	1.40	0.047	0.051	0.055
e1	0.65REF			0.026REF		
L	0.20	0.38	0.56	0.008	0.015	0.022
HE	2.00	2.10	2.40	0.079	0.083	0.095

**8.SOLDERING FOOTPRINT**

