



**BC817-25**  
**BC817-40**

## SMALL SIGNAL NPN TRANSISTORS

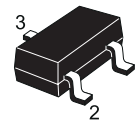
PRELIMINARY DATA

Type	Marking
BC817-25	6B
BC817-40	6C

- SILICON EPITAXIAL PLANAR NPN TRANSISTORS
- MINIATURE SOT-23 PLASTIC PACKAGE FOR SURFACE MOUNTING CIRCUITS
- TAPE AND REEL PACKING
- THE PNP COMPLEMENTARY TYPES ARE BC807-25 AND BC817-40 RESPECTIVELY

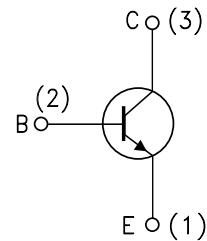
### APPLICATIONS

- WELL SUITABLE FOR PORTABLE EQUIPMENT
- SMALL LOAD SWITCH TRANSISTORS WITH HIGH GAIN AND LOW SATURATION VOLTAGE



SOT-23

### INTERNAL SCHEMATIC DIAGRAM



DS10130

### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
$V_{CB0}$	Collector-Base Voltage ( $I_E = 0$ )	50	V
$V_{CE0}$	Collector-Emitter Voltage ( $I_B = 0$ )	45	V
$V_{EB0}$	Emitter-Base Voltage ( $I_C = 0$ )	5	V
$I_C$	Collector Current	0.5	A
$I_{CM}$	Collector Peak Current	1	A
$P_{tot}$	Total Dissipation at $T_C = 25\text{ }^\circ\text{C}$	250	mW
$T_{stg}$	Storage Temperature	-65 to 150	$^\circ\text{C}$
$T_j$	Max. Operating Junction Temperature	150	$^\circ\text{C}$

## BC817-25 / BC817-40

### THERMAL DATA

$R_{thj-amb}$	Thermal Resistance Junction-Ambient	Max	500	$^{\circ}\text{C}/\text{W}$
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• Device mounted on a PCB area of  $1\text{ cm}^2$

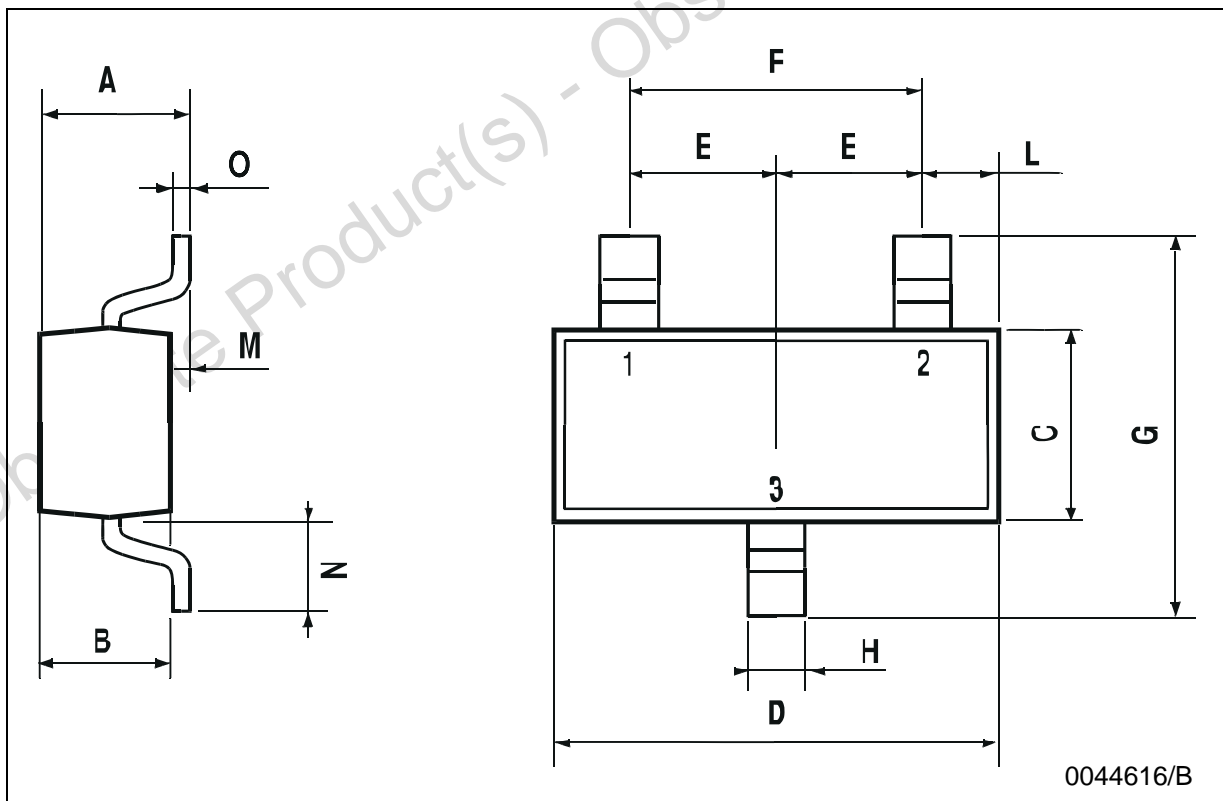
### ELECTRICAL CHARACTERISTICS ( $T_{case} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CBO}$	Collector Cut-off Current ( $I_E = 0$ )	$V_{CB} = 20\text{ V}$ $V_{CB} = 20\text{ V}$ $T_C = 150^{\circ}\text{C}$			100 5	nA $\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current ( $I_E = 0$ )	$V_{EB} = 5\text{ V}$			100	nA
$V_{(BR)CEO}^*$	Collector-Emitter Breakdown Voltage ( $I_B = 0$ )	$I_C = 10\text{ mA}$	45			V
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = 500\text{ mA}$ $I_B = 50\text{ mA}$			0.7	V
$V_{BE(on)}^*$	Base-Emitter On Voltage	$I_C = 500\text{ mA}$ $V_{CE} = 1\text{ V}$			1.2	V
$h_{FE}^*$	DC Current Gain	$I_C = 100\text{ mA}$ $V_{CE} = 1\text{ V}$ for <b>BC817-25</b> for <b>BC817-40</b>	160 250		400 600	
$f_T$	Transition Frequency	$I_C = 10\text{ mA}$ $V_{CE} = 5\text{ V}$ $f = 100\text{ MHz}$	100			MHz
$C_{CBO}$	Collector-Base Capacitance	$I_E = 0$ $V_{CB} = 10\text{ V}$ $f = 1\text{ MHz}$		8		pF

\* Pulsed: Pulse duration =  $300\text{ }\mu\text{s}$ , duty cycle  $\leq 2\%$

## SOT-23 MECHANICAL DATA

DIM.	mm			mils		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	0.85		1.1	33.4		43.3
B	0.65		0.95	25.6		37.4
C	1.20		1.4	47.2		55.1
D	2.80		3	110.2		118
E	0.95		1.05	37.4		41.3
F	1.9		2.05	74.8		80.7
G	2.1		2.5	82.6		98.4
H	0.38		0.48	14.9		18.8
L	0.3		0.6	11.8		23.6
M	0		0.1	0		3.9
N	0.3		0.65	11.8		25.6
O	0.09		0.17	3.5		6.7



Obsolete Product(s) - Obsolete Product(s)

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