



BC817-25
BC817-40

SMALL SIGNAL NPN TRANSISTORS

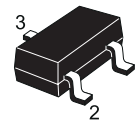
PRELIMINARY DATA

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

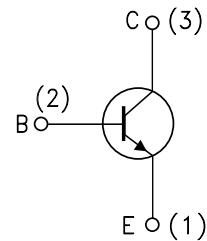
APPLICATIONS

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



SOT-23

INTERNAL SCHEMATIC DIAGRAM



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	°C/W
------------------------	-------------------------------------	-----	-----	------

• Device mounted on a PCB area of 1 cm²

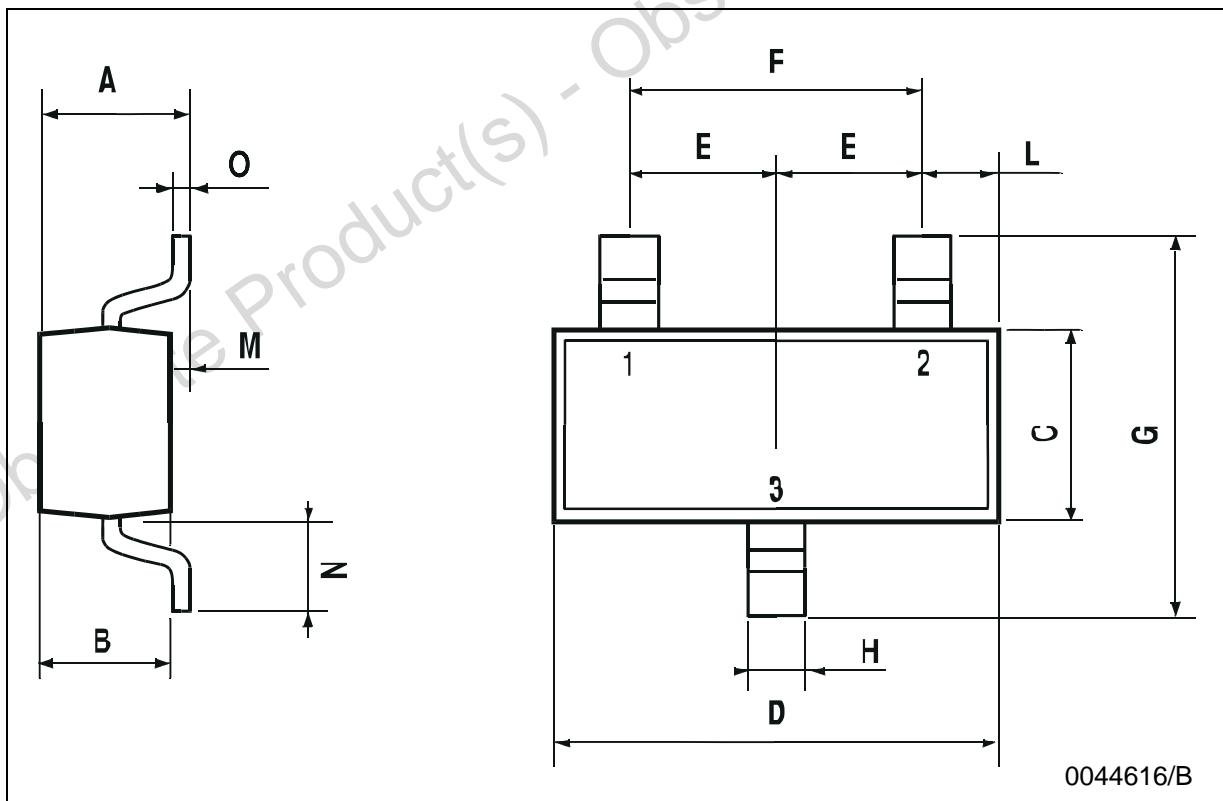
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CBO}	Collector Cut-off Current (I _E = 0)	V _{CB} = 20 V V _{CB} = 20 V T _C = 150°C			100 5	nA μA
I _{EBO}	Emitter Cut-off Current (I _E = 0)	V _{EB} = 5 V			100	nA
V _{(BR)CEO} *	Collector-Emitter Breakdown Voltage (I _B = 0)	I _C = 10 mA	45			V
V _{CE(sat)} *	Collector-Emitter Saturation Voltage	I _C = 500 mA I _B = 50 mA			0.7	V
V _{BE(on)} *	Base-Emitter On Voltage	I _C = 500 mA V _{CE} = 1 V			1.2	V
h _{FE} *	DC Current Gain	I _C = 100 mA V _{CE} = 1 V for BC817-25 for BC817-40	160 250		400 600	
f _T	Transition Frequency	I _C = 10 mA V _{CE} = 5 V f = 100 MHz	100			MHz
C _{CB0}	Collector-Base Capacitance	I _E = 0 V _{CB} = 10 V f = 1 MHz		8		pF

* Pulsed: Pulse duration = 300 μs, duty cycle ≤ 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)

Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specification mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

The ST logo is a trademark of STMicroelectronics

© 2002 STMicroelectronics – Printed in Italy – All Rights Reserved

STMicroelectronics GROUP OF COMPANIES

Australia - Brazil - Canada - China - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States.

<http://www.st.com>