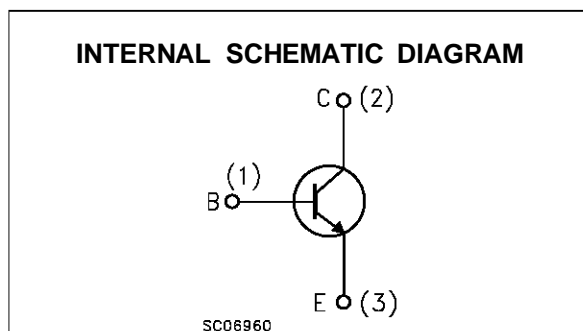
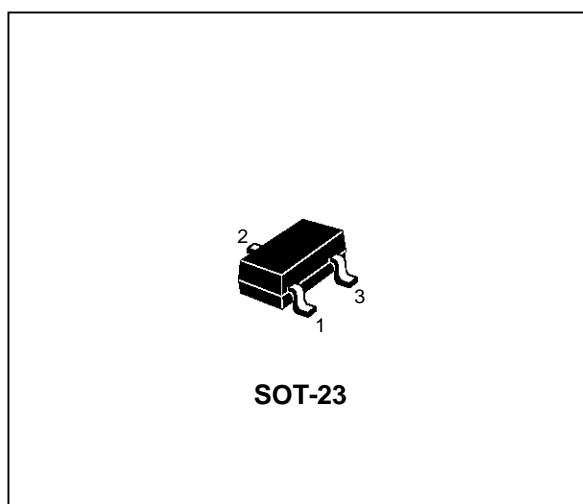


## SMALL SIGNAL NPN TRANSISTOR

Type	Marking
BSS64	U3

- SILICON EPITAXIAL PLANAR NPN TRANSISTOR
- MINIATURE PLASTIC PACKAGE FOR APPLICATION IN SURFACE MOUNTING CIRCUITS
- GENERAL PURPOSE LOW FREQUENCY APPLICATIONS
- PNP COMPLEMENT IS BSS63



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage ( $V_{BE} = 0$ )	120	V
$V_{CEO}$	Collector-Emitter Voltage ( $I_B = 0$ )	80	V
$V_{EBO}$	Emitter-Base Voltage ( $I_C = 0$ )	5	V
$I_C$	Collector Current	0.1	A
$I_{CM}$	Collector Peak Current	0.2	A
$P_{tot}$	Total Dissipation at $T_c = 25\text{ }^\circ\text{C}$	200	mW
$T_{stg}$	Storage Temperature	-65 to 150	$^\circ\text{C}$
$T_j$	Max. Operating Junction Temperature	150	$^\circ\text{C}$

## BSS64

### THERMAL DATA

$R_{thj-amb}$ •	Thermal Resistance Junction-Ambient	Max	620	$^{\circ}\text{C}/\text{W}$
$R_{thj-SR}$ •	Thermal Resistance Junction-Substrate	Max	500	$^{\circ}\text{C}/\text{W}$

• Mounted on a ceramic substrate area = 15 x 15 x 0.7 mm

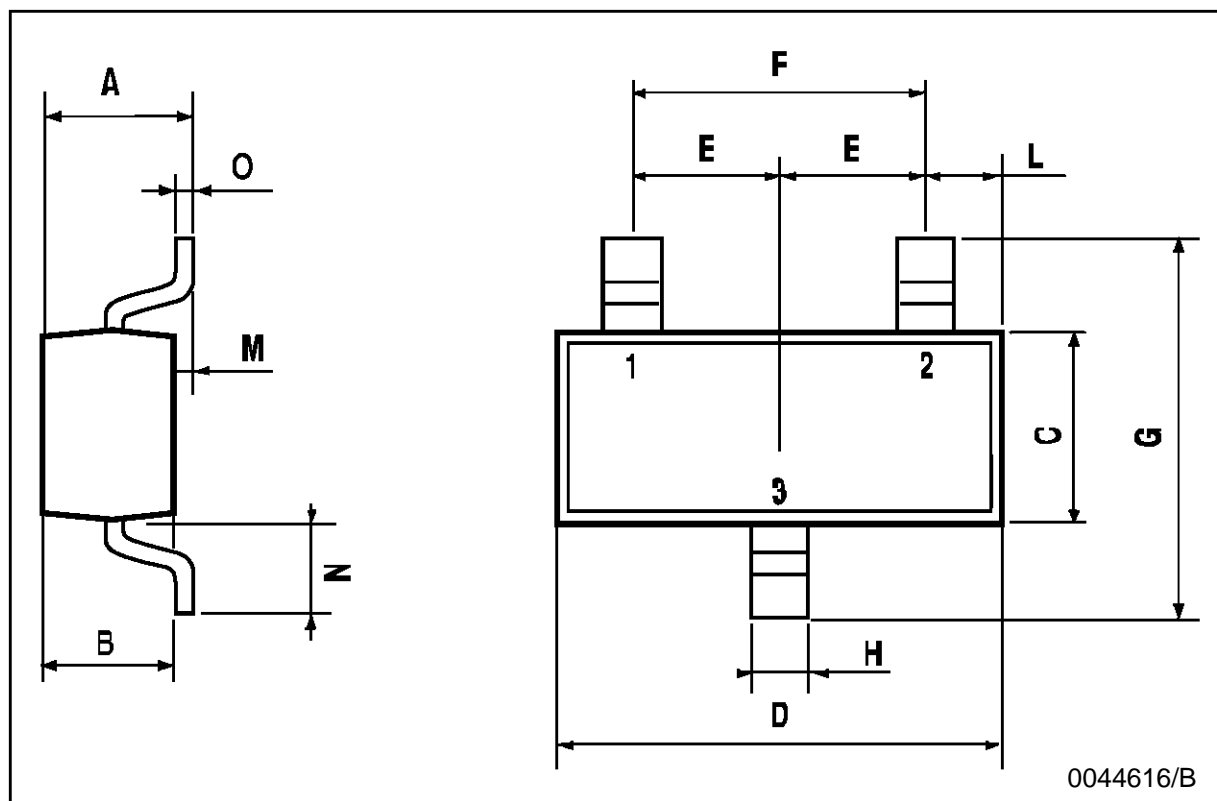
### ELECTRICAL CHARACTERISTICS ( $T_{case} = 25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CBO}$	Collector Cut-off Current ( $I_E = 0$ )	$V_{CB} = 90\text{ V}$ $V_{CB} = 90\text{ V}$ $T_j = 150^{\circ}\text{C}$			100 50	nA $\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current ( $I_C = 0$ )	$V_{EB} = 5\text{ V}$			200	nA
$V_{(BR)CBO}^*$	Collector-Base Breakdown Voltage ( $I_E = 0$ )	$I_C = 100\ \mu\text{A}$	120			V
$V_{(BR)CEO}^*$	Collector-Emitter Breakdown Voltage ( $I_B = 0$ )	$I_C = 4\text{ mA}$	80			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ( $I_C = 0$ )	$I_E = 100\ \mu\text{A}$	5			V
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = 4\text{ mA}$ $I_B = 0.4\text{ mA}$ $I_C = 50\text{ mA}$ $I_B = 15\text{ mA}$			0.15 0.2	V V
$V_{BE(sat)}^*$	Base-Emitter Saturation Voltage	$I_C = 4\text{ mA}$ $I_B = 0.4\text{ mA}$			1.2	V
$h_{FE}^*$	DC Current Gain	$I_C = 1\text{ mA}$ $V_{CE} = 1\text{ V}$ $I_C = 4\text{ mA}$ $V_{CE} = 1\text{ V}$ $I_C = 10\text{ mA}$ $V_{CE} = 1\text{ V}$ $I_C = 20\text{ mA}$ $V_{CE} = 1\text{ V}$	15 20 15	60 80 55		
$f_T$	Transition Frequency	$I_C = 4\text{ mA}$ $V_{CE} = 10\text{ V}$ $f = 100\text{ MHz}$	60			MHz
$C_{CB}$	Collector Base Capacitance	$I_E = 0\text{ mA}$ $V_{CB} = 10\text{ V}$ $f = 1\text{ MHz}$			5	pF

\* Pulsed: Pulse duration = 300  $\mu\text{s}$ , 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



Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics 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 SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of SGS-THOMSON Microelectronics.

© 1995 SGS-THOMSON Microelectronics - Printed in Italy - All Rights Reserved

SGS-THOMSON Microelectronics GROUP OF COMPANIES

Australia - Brazil - Canada - China - France - Germany - Hong Kong - Italy - Japan - Korea - Malaysia - Malta - Morocco - The Netherlands - Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A