

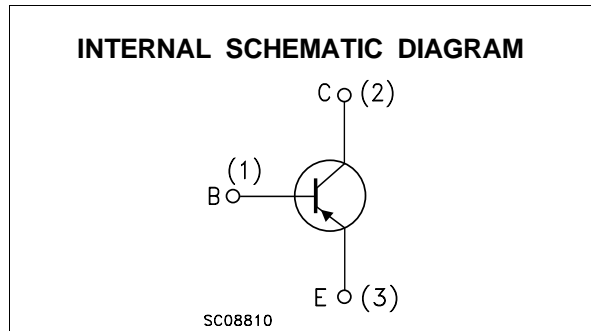
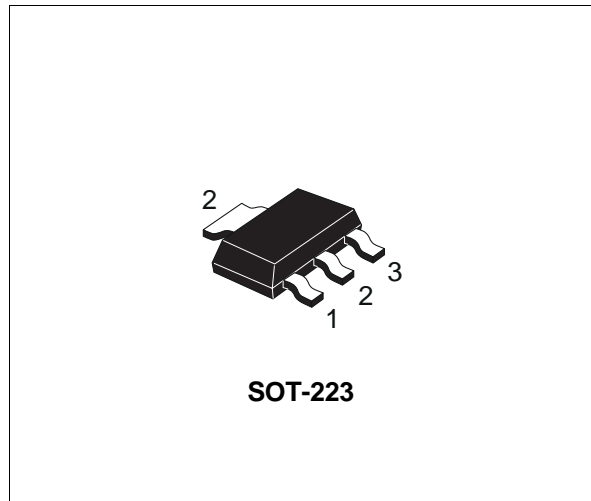
## LOW POWER PNP TRANSISTOR

Ordering Code	Marking
BCP53-16	BCP5316

- SILICON EPITAXIAL PLANAR PNP MEDIUM VOLTAGE TRANSISTOR
- SOT-223 PLASTIC PACKAGE FOR SURFACE MOUNTING CIRCUITS
- TAPE AND REEL PACKING
- THE NPN COMPLEMENTARY TYPE IS BCP56-16

### APPLICATIONS

- MEDIUM VOLTAGE LOAD SWITCH TRANSISTORS
- OUTPUT STAGE FOR AUDIO AMPLIFIERS CIRCUITS
- AUTOMOTIVE POST-VOLTAGE REGULATION



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage ( $I_E = 0$ )	-100	V
$V_{CEO}$	Collector-Emitter Voltage ( $I_B = 0$ )	-80	V
$V_{CER}$	Collector-Emitter Voltage ( $R_{BE} = 1K\Omega$ )	-100	V
$V_{EBO}$	Emitter-Base Voltage ( $I_C = 0$ )	-5	V
$I_C$	Collector Current	-1	A
$I_{CM}$	Collector Peak Current ( $t_p < 5$ ms)	-1.5	A
$I_B$	Base Current	-0.1	A
$I_{BM}$	Base Peak Current ( $t_p <$ ms)	-0.2	A
$P_{tot}$	Total Dissipation at $T_{amb} = 25$ °C	1.6	W
$T_{stg}$	Storage Temperature	-65 to 150	°C
$T_j$	Max. Operating Junction Temperature	150	°C

## BCP53-16

### THERMAL DATA

$R_{thj-amb}$ •	Thermal Resistance Junction-Ambient	Max	78	°C/W
-----------------	-------------------------------------	-----	----	------

• Device mounted on a PCB area of 1 cm<sup>2</sup>

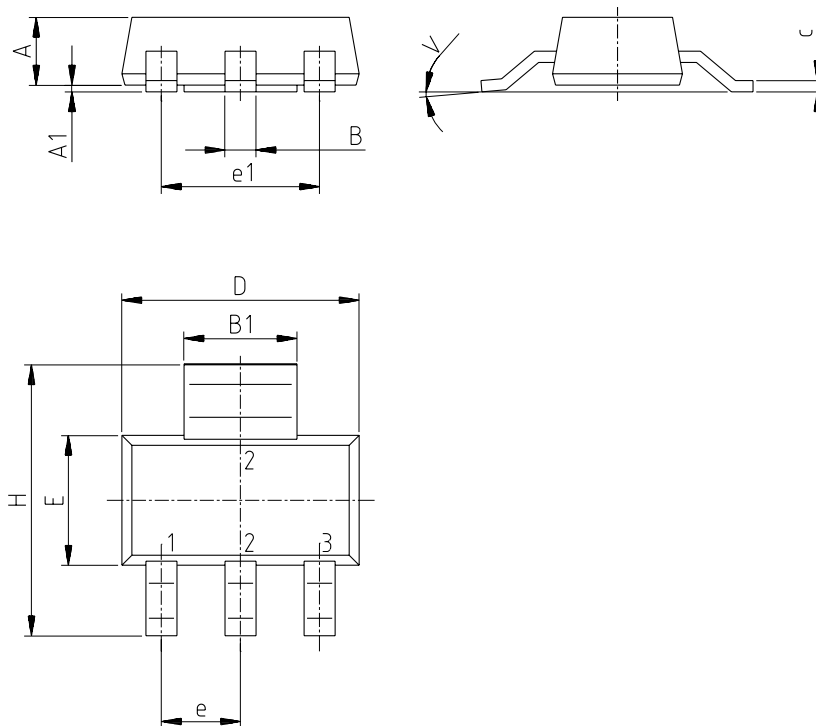
### ELECTRICAL CHARACTERISTICS (T<sub>case</sub> = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CBO}$	Collector Cut-off Current (I <sub>E</sub> = 0)	V <sub>CB</sub> = -30 V V <sub>CB</sub> = -30 V T <sub>j</sub> = 125 °C			-100 -10	nA μA
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage (I <sub>E</sub> = 0)	I <sub>C</sub> = -100 μA	-100			V
V <sub>(BR)CEO</sub> *	Collector-Emitter Breakdown Voltage (I <sub>B</sub> = 0)	I <sub>C</sub> = -20 mA	-80			V
V <sub>(BR)CER</sub>	Collector-Emitter Breakdown Voltage (R <sub>BE</sub> = 1 KΩ)	I <sub>C</sub> = -100 μA	-100			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage (I <sub>C</sub> = 0)	I <sub>E</sub> = -10 μA	-5			V
V <sub>CE(sat)</sub> *	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -500 mA I <sub>B</sub> = -50 mA			-0.5	V
V <sub>BE(on)</sub> *	Base-Emitter On Voltage	I <sub>C</sub> = -500 mA V <sub>CE</sub> = -2 V			-1	V
h <sub>FE</sub> *	DC Current Gain	I <sub>C</sub> = -5 mA V <sub>CE</sub> = -2 V I <sub>C</sub> = -150 mA V <sub>CE</sub> = -2 V I <sub>C</sub> = -500 mA V <sub>CE</sub> = -2 V	40 100 25		250	
f <sub>T</sub>	Transition Frequency	I <sub>C</sub> = -10 mA V <sub>CE</sub> = -5 V f = 20 MHz		50		MHz

\* Pulsed: Pulse duration = 300 μs, duty cycle ≤ 1.5 %

## SOT-223 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A			1.80			0.071
B	0.60	0.70	0.80	0.024	0.027	0.031
B1	2.90	3.00	3.10	0.114	0.118	0.122
c	0.24	0.26	0.32	0.009	0.010	0.013
D	6.30	6.50	6.70	0.248	0.256	0.264
e		2.30			0.090	
e1		4.60			0.181	
E	3.30	3.50	3.70	0.130	0.138	0.146
H	6.70	7.00	7.30	0.264	0.276	0.287
V			10°			10°
A1		0.02				



P008B

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.

All other names are the property of their respective owners.

© 2003 STMicroelectronics – All Rights reserved

STMicroelectronics GROUP OF COMPANIES

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

<http://www.st.com>