

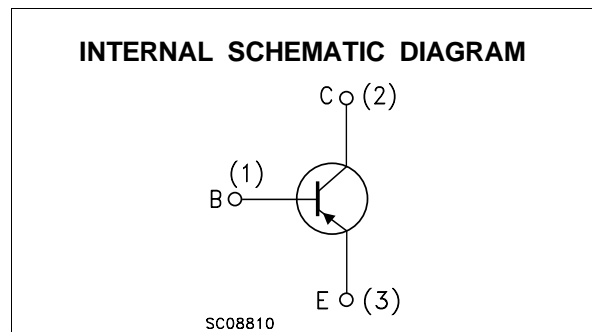
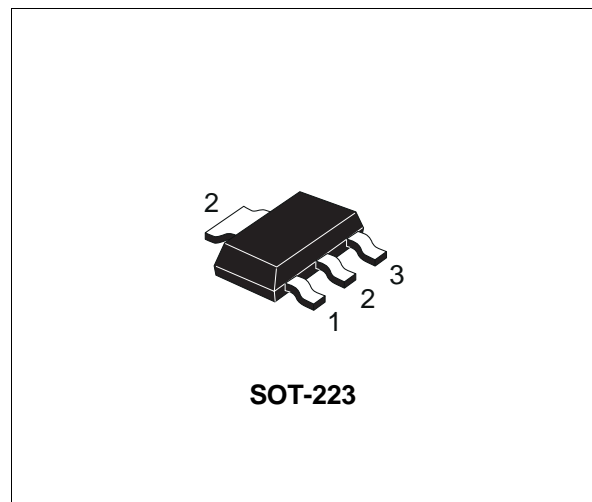
## LOW POWER PNP TRANSISTOR

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

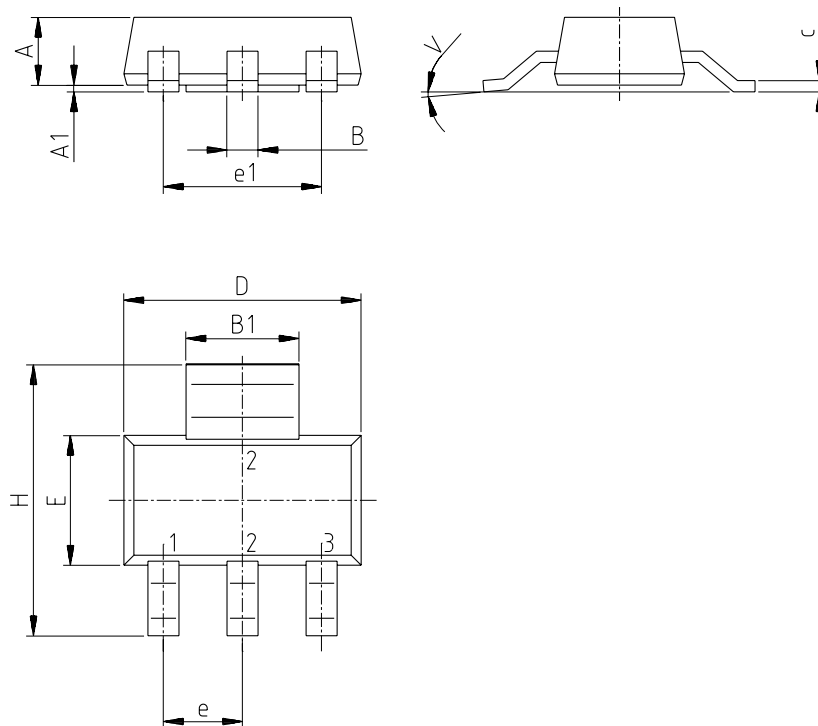
### ELECTRICAL CHARACTERISTICS (T<sub>case</sub> = 25 °C unless otherwise specified)

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				



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