



## SMALL SIGNAL PNP TRANSISTOR

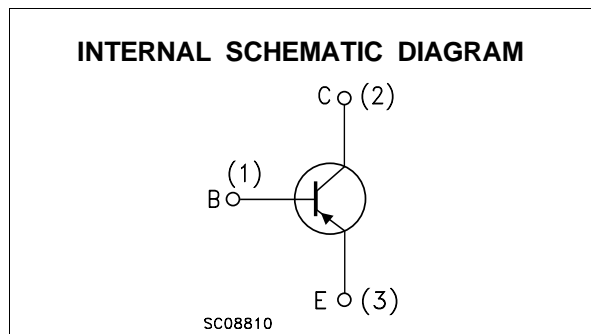
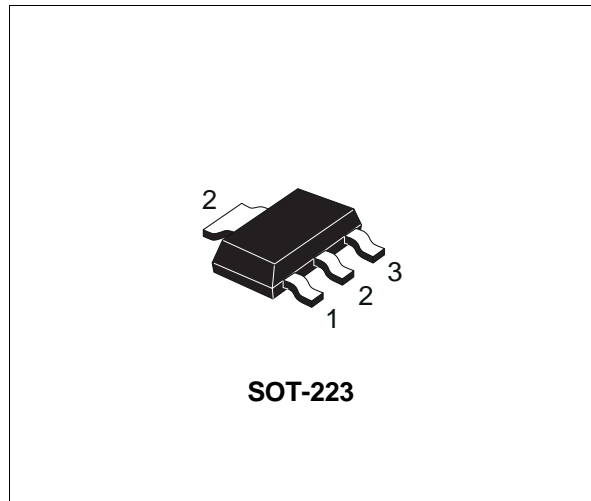
PRELIMINARY DATA

Ordering Code	Marking
BCP53-16	BCP5316

- SILICON EPITAXIAL PLANAR PNP MEDIUM VOLTAGE TRANSISTORS
- 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

## THERMAL DATA

$R_{thj-amb}$	Thermal Resistance Junction-Ambient	Max	78	$^{\circ}\text{C}/\text{W}$
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• Device mounted on a PCB area of  $1\text{ cm}^2$

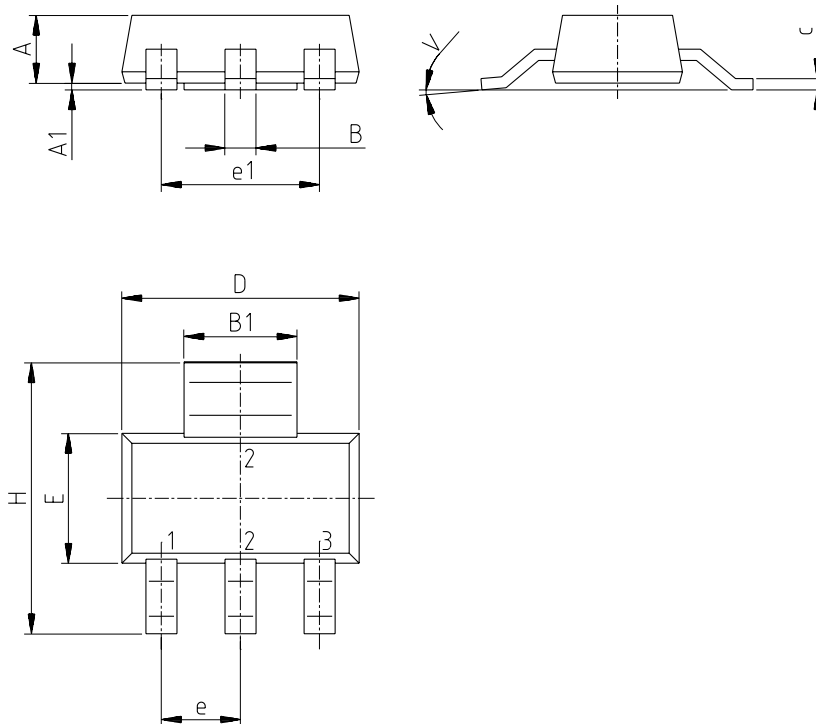
ELECTRICAL CHARACTERISTICS ( $T_{case} = 25\text{ }^{\circ}\text{C}$  unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CBO}$	Collector Cut-off Current ( $I_E = 0$ )	$V_{CB} = -30\text{ V}$ $V_{CB} = -30\text{ V}$ $T_j = 125\text{ }^{\circ}\text{C}$			-100 -10	nA $\mu\text{A}$
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ( $I_E = 0$ )	$I_C = -100\text{ }\mu\text{A}$	-100			V
$V_{(BR)CEO}^*$	Collector-Emitter Breakdown Voltage ( $I_B = 0$ )	$I_C = -20\text{ mA}$	-80			V
$V_{(BR)CER}$	Collector-Emitter Breakdown Voltage ( $R_{BE} = 1\text{ K}\Omega$ )	$I_C = -100\text{ }\mu\text{A}$	-100			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ( $I_C = 0$ )	$I_E = -10\text{ }\mu\text{A}$	-5			V
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = -500\text{ mA}$ $I_B = -50\text{ mA}$			-0.5	V
$V_{BE(on)}^*$	Base-Emitter On Voltage	$I_C = -500\text{ mA}$ $V_{CE} = -2\text{ V}$			-1	V
$h_{FE}^*$	DC Current Gain	$I_C = -5\text{ mA}$ $V_{CE} = -2\text{ V}$ $I_C = -150\text{ mA}$ $V_{CE} = -2\text{ V}$ $I_C = -500\text{ mA}$ $V_{CE} = -2\text{ V}$	40 100 25		250	
$f_T$	Transition Frequency	$I_C = -10\text{ mA}$ $V_{CE} = -5\text{ V}$ $f = 20\text{ MHz}$		50		MHz

\* Pulsed: Pulse duration =  $300\text{ }\mu\text{s}$ , duty cycle  $\leq 1.5\%$

## 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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