

## 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>

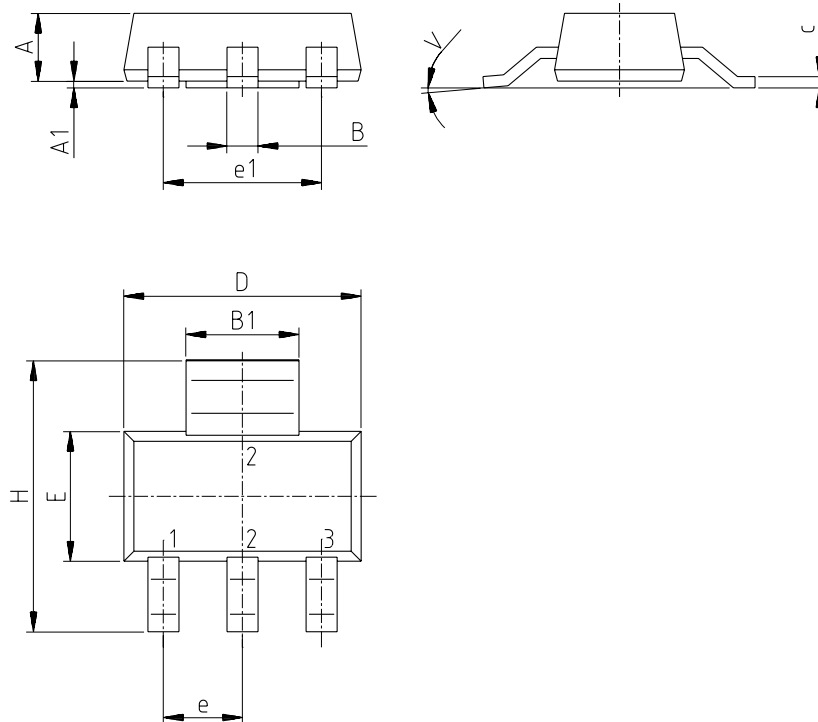
### ELECTRICAL CHARACTERISTICS ( $T_{case} = 25\text{ °C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CBO}$	Collector Cut-off Current ( $I_E = 0$ )	$V_{CB} = -30\text{ V}$ $V_{CB} = -30\text{ V}$ $T_j = 125\text{ °C}$			-100 -10	nA μA
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ( $I_E = 0$ )	$I_C = -100\text{ μA}$	-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 ( $R_{BE} = 1\text{ K}\Omega$ )	$I_C = -100\text{ μA}$	-100			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ( $I_C = 0$ )	$I_E = -10\text{ μA}$	-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 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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