

# BSP16T1

Preferred Device

## High Voltage Transistors

### PNP Silicon

#### Features

- Pb-Free Package is Available

#### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	$V_{CEO}$	-300	Vdc
Collector-Base Voltage	$V_{CBO}$	-350	Vdc
Emitter-Base Voltage	$V_{EBO}$	-6.0	Vdc
Collector Current	$I_C$	-1000	mAdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ (Note 1)	$P_D$	1.5	W
Storage Temperature Range	$P_D$	-65 to +150	$^\circ\text{C}$
Junction Temperature	$T_J$	150	$^\circ\text{C}$

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

#### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	83.3	$^\circ\text{C}/\text{W}$

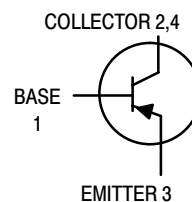
- Device mounted on a glass epoxy printed circuit board 1.575 in x 1.575 in x 0.059 in; mounting pad for the collector lead min. 0.93 sq. in.



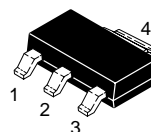
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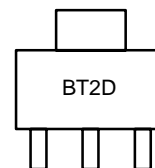
### PNP SILICON HIGH VOLTAGE TRANSISTOR SURFACE MOUNT



#### MARKING DIAGRAM



TO-223  
CASE 318E  
STYLE 1



BT2 = Specific Device Code  
D = Date

#### ORDERING INFORMATION

Device	Package	Shipping†
BSP16T1	TO-223	1000/Tape & Reel
BSP16T1G	TO-223 (Pb-Free)	1000/Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

**Preferred** devices are recommended choices for future use and best overall value.

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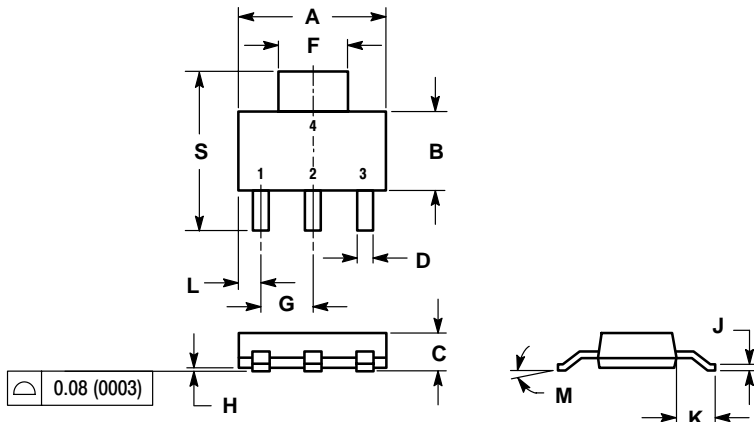
## ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
<b>OFF CHARACTERISTICS</b>				
Collector–Emitter Breakdown Voltage ( $I_C = -50\text{ mAdc}$ , $I_B = 0$ , $L = 25\text{ mH}$ )	$V_{(BR)CEO}$	-300	–	Vdc
Collector–Base Breakdown Voltage ( $I_C = -100\text{ }\mu\text{Adc}$ , $I_E = 0$ )	$V_{(BR)CBO}$	-300	–	Vdc
Collector–Emitter Cutoff Current ( $V_{CE} = -250\text{ Vdc}$ , $I_B = 0$ )	$I_{CES}$	–	-50	$\mu\text{Adc}$
Collector–Base Cutoff Current ( $V_{CB} = -280\text{ Vdc}$ , $I_E = 0$ )	$I_{CBO}$	–	-1.0	$\mu\text{Adc}$
Emitter–Base Cutoff Current ( $V_{EB} = -6.0\text{ Vdc}$ , $I_C = 0$ )	$I_{EBO}$	–	-20	$\mu\text{Adc}$
<b>ON CHARACTERISTICS</b>				
DC Current Gain ( $V_{CE} = -10\text{ Vdc}$ , $I_C = -50\text{ mAdc}$ )	$h_{FE}$	30	120	–
Collector-Emitter Saturation Voltage ( $I_C = -50\text{ mAdc}$ , $I_B = -5.0\text{ mAdc}$ )	$V_{CE(sat)}$	–	-2.0	Vdc
<b>DYNAMIC CHARACTERISTICS</b>				
Current Gain – Bandwidth Product ( $V_{CE} = -10\text{ Vdc}$ , $I_C = -10\text{ mAdc}$ , $f = 30\text{ MHz}$ )	$f_T$	15	–	MHz
Collector–Base Capacitance ( $V_{CB} = -10\text{ Vdc}$ , $I_E = 0$ , $f = 1.0\text{ MHz}$ )	$C_{obo}$	–	15	pF

# BSP16T1

## PACKAGE DIMENSIONS

TO-223 (TO-261)  
CASE 318E-04  
ISSUE K

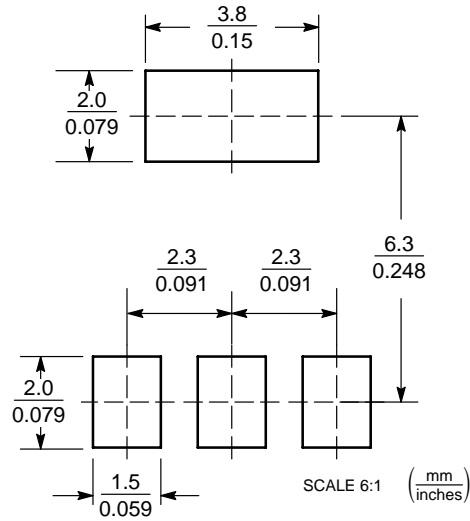


- NOTES:  
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.  
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.249	0.263	6.30	6.70
B	0.130	0.145	3.30	3.70
C	0.060	0.068	1.50	1.75
D	0.024	0.035	0.60	0.89
F	0.115	0.126	2.90	3.20
G	0.087	0.094	2.20	2.40
H	0.0008	0.0040	0.020	0.100
J	0.009	0.014	0.24	0.35
K	0.060	0.078	1.50	2.00
L	0.033	0.041	0.85	1.05
M	0°	10°	0°	10°
S	0.264	0.287	6.70	7.30


- STYLE 1:  
PIN 1. BASE  
2. COLLECTOR  
3. EMITTER  
4. COLLECTOR

### SOLDERING FOOTPRINT\*



\*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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