



Micro Commercial Components



Micro Commercial Components  
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# BD439

## Features

- Lead Free Finish/RoHS Compliant (Note1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Intended for use in medium power near and switching applications
- With TO-126 package
- Halogen free available upon request by adding suffix "-HF"

## NPN Silicon Power Transistors

## Maximum Ratings

Symbol	Parameter	Rating	Unit
$V_{CEO}$	Collector-Emitter Voltage	60	V
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{EBO}$	Emitter-Base Voltage	5.0	V
$I_C$	Collector Current	4.0	A
$P_C$	Collector power dissipation	1.25	W
$T_J$	Junction Temperature	-55 to +150	°C
$T_{STG}$	Storage Temperature	-55 to +150	°C

## Electrical Characteristics @ 25°C Unless Otherwise Specified

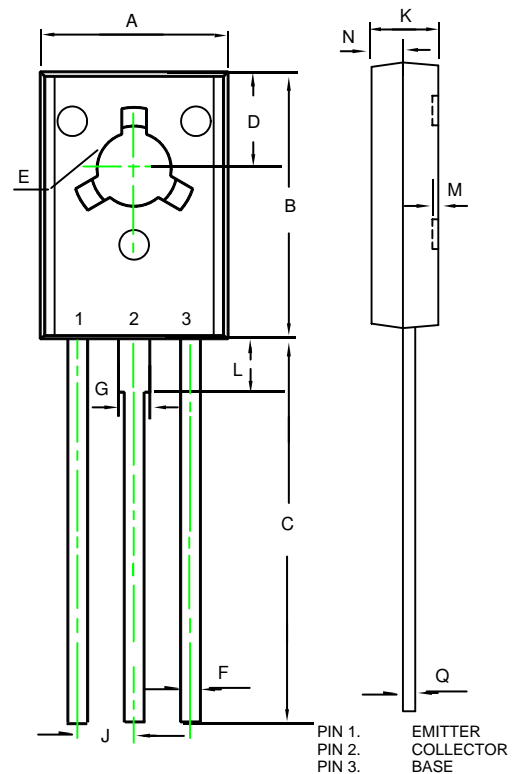
Symbol	Parameter	Min	Max	Units
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### OFF CHARACTERISTICS

$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ( $I_C=100\text{mA}$ , $I_B=0$ )	60	---	Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ( $I_C=100\ \mu\text{A}$ , $I_E=0$ )	60	---	Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ( $I_E=100\ \mu\text{A}$ , $I_C=0$ )	5	---	Vdc
$I_{CBO}$	Collector-Base Cutoff Current ( $V_{CB}=60\text{Vdc}$ , $I_E=0$ )	---	100	$\mu\text{A}$
$I_{EBO}$	Emitter-Base Cutoff Current ( $V_{EB}=5.0\text{Vdc}$ , $I_C=0$ )	---	1.0	$\text{mA}$

Notes: 1. High Temperature Solder Exemption Applied, see EU Directive Annex Notes 7.

## TO-126



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.291	0.307	7.40	7.80	
B	0.417	0.433	10.60	11.00	
C	0.602	0.618	15.30	15.70	
D	0.154	0.161	3.90	4.10	
E	0.118	0.126	3.00	3.20	
F	0.026	0.034	0.66	0.86	
G	0.046	0.054	1.17	1.37	
J	0.090TYP		2.290TYP		
K	0.098	0.114	2.50	2.90	
L	0.083	0.091	2.10	2.30	
M	0.000	0.012	0.00	0.30	
N	0.043	0.059	1.10	1.50	
Q	0.018	0.024	0.45	0.60	

**ON CHARACTERISTICS**

$h_{FE-1}$	DC Current Gain ( $I_C=500\text{mAdc}$ , $V_{CE}=1.0\text{Vdc}$ )	45	475	---
$h_{FE-2}$	DC Current Gain ( $I_C=10\text{mAdc}$ , $V_{CE}=5.0\text{Vdc}$ )	20	---	---
$h_{FE-3}$	DC Current Gain ( $I_C=2\text{Adc}$ , $V_{CE}=1.0\text{Vdc}$ )	25	---	----
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ( $I_C=3.0\text{Adc}$ , $I_B=0.3\text{Adc}$ )	---	0.8	Vdc
$V_{BE}$	Base-Emitter Voltage ( $V_{CE}=1.0\text{Vdc}$ , $I_C=2.0\text{Adc}$ )	---	1.1	Vdc
$f_T$	Transition Frequency ( $I_C=250\text{mAdc}$ , $V_{CE}=1.0\text{Vdc}$ )	3.0	---	MHz



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### Ordering Information :

Device	Packing
Part Number-BP	Bulk; 1 Kpcs/Box

Note : Adding "-HF" suffix for halogen free, eg. Part Number-BP-HF

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