



Micro Commercial Components



Micro Commercial Components
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BUT11A

NPN Silicon Power Transistors

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
- High voltage, high speed NPN power transistors.
- With TO-220 package
- Intended for use in converters, inverters, switching regulators, motor control systems.

Maximum Ratings

Symbol	Rating	Rating	Unit
V_{CE0}	Collector-Emitter Voltage	450	V
V_{CBO}	Collector-Base Voltage	1000	V
V_{EBO}	Emitter to Base Voltage	9.0	V
I_{CP}	Peak Collector Current	10	A
I_C	Collector Current	5.0	A
P_C	Collector power dissipation	100	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 ($I_C=100\text{mAdc}$, $I_E=0$)	450	---	Vdc
I_{CBO}	Collector-Base Cutoff Current ($V_{CB}=1000\text{Vdc}$, $I_E=0$)	---	1.0	mAdc
I_{EBO}	Emitter-Base Cutoff Current ($V_{EB}=9.0\text{Vdc}$, $I_C=0$)	---	10	mAdc

ON CHARACTERISTICS

h_{FE-1}	Forward Current Transfer ratio ($I_C=5.0\text{mAdc}$, $V_{CE}=5.0\text{Vdc}$)	10	35	---
h_{FE-2}	Forward Current Transfer ratio ($I_C=500\text{mAdc}$, $V_{CE}=5.0\text{Vdc}$)	10	35	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=2.5\text{Adc}$, $I_B=0.5\text{Adc}$)	---	1.5	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ($I_C=2.5\text{Adc}$, $I_B=0.5\text{Adc}$)	---	1.3	Vdc

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



TO-220

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.560	.625	14.22	15.88	
B	.380	.420	9.65	10.67	
C	.140	.190	3.56	4.82	
D	.020	.045	0.51	1.14	
F	.139	.161	3.53	4.09	Ø
G	.190	.110	2.29	2.79	
H	---	.250	---	6.35	
J	.012	.025	0.30	0.64	
K	.500	.580	12.70	14.73	
L	.045	.060	1.14	1.52	
N	.190	.210	4.83	5.33	
Q	.100	.135	2.54	3.43	
R	.080	.115	2.04	2.92	
S	.045	.055	1.14	1.39	
T	.230	.270	5.84	6.86	
U	-----	.050	-----	1.27	
V	.045	-----	1.15	-----	



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Ordering Information :

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

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