Micro Commercial Components

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MJE13003

NPN Silicon Plastic-Encapsulate Transistor

Features

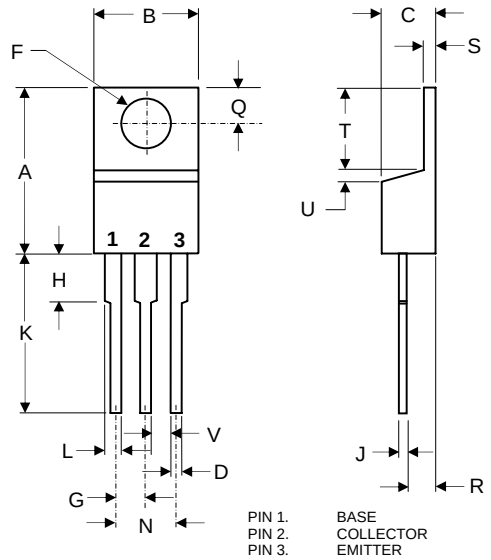
- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Capable of 1.5Watts of Power Dissipation.
- Collector-current 1.5A
- Collector-base Voltage 700V
- Operating and storage junction temperature range: -55°C to +150°C
- Epoxy meets UL 94 V-0 flammability rating
- Moisure Sensitivity Level 1
- Mounting Torgue: 5 in-lbs Maximum

Electrical Characteristics @ 25ºC Unless Otherwise Specified

Symbol	Parameter		Min	Max	Units
OFF CHARACTERISTICS					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage (I_C=10mAdc, I_B=0)		400		Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage (I_C=1000uAdc, I_E=0)		700		Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage (I_E=1000uAdc, I_C=0)		9.0		Vdc
I_{CBO}	Collector Cutoff Current (V_{CB}=700Vdc, I_E=0)			1000	uAdc
I_{CEO}	Collector Cutoff Current (V_{CE}=400Vdc,I_B=0)			500	uAdc
I_{EBO}	Emitter Cutoff Current (V_{EB}=9.0Vdc, I_C=0)			1000	uAdc
ON CHARACTERISTICS					
$h_{FE(1)}$	DC Current Gain (I_C=0.5Adc, V_{CE}=2.0Vdc)		8.0	40	
$h_{FE(2)}$	DC Current Gain (I_C=0.5mAdc, V_{CE}=10Vdc)		5.0		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage (I_C=1000mAdc, I_B=250mAdc)			1.0	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage (I_C=1000mAdc, I_B=250mAdc)			1.2	Vdc
V_{BE}	Base-Emitter Voltage (I_E=2000mAdc)			3.0	Vdc
SMALL-SIGNAL CHARACTERISTICS					
f_T	Transistor Frequency (I_C=100mAdc, V_{CE}=10Vdc, f=1.0MHz)		5.0		MHz
t_F	Fall Time	V_{CC}=100V,I_C=1.0 A,I_{B1}=I_{B2}=0.2A		0.5	uS
t_S	Storage Time			2.5	uS

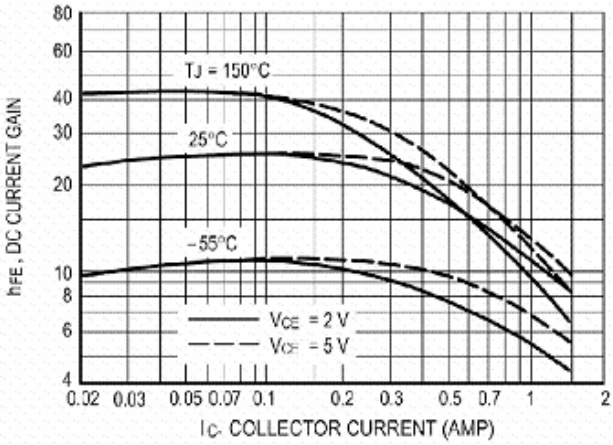
Notes:1.High Temperature Solder Exemption Applied, see EU Directive Annex 7.

TO-220

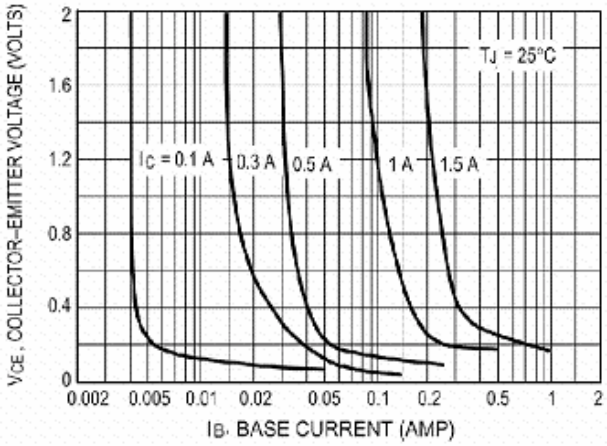


DIM	INCHES MIN	INCHES MAX	MM MIN	MM MAX	NOTE
A	.560	.625	14.22	15.88	
B	.380	.420	9.65	10.67	
C	.140	.190	3.56	4.82	
D	.020	.045	0.51	1.14	
F	.139	.161	3.53	4.09	Ø
G	.190	.110	2.29	2.79	
H	---	.250	---	6.35	
J	.012	.025	0.30	0.64	
K	.500	.580	12.70	14.73	
L	.045	.060	1.14	1.52	
N	.190	.210	4.83	5.33	
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	-----	

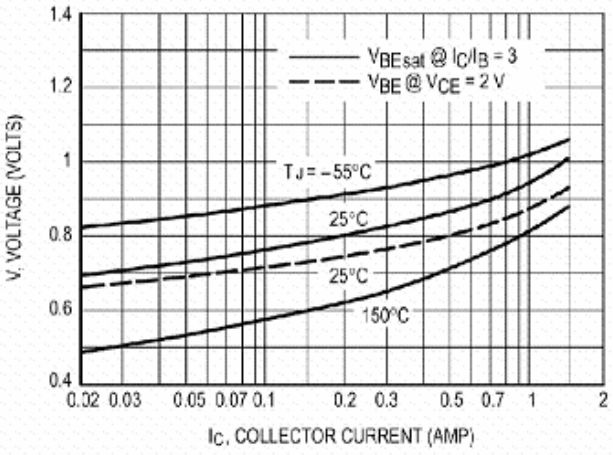
Typical Characteristics



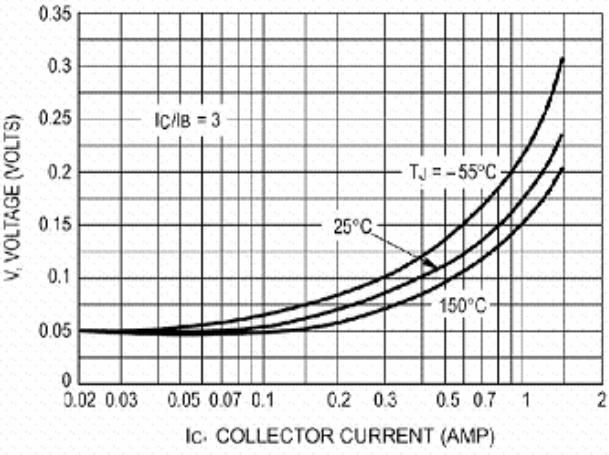
DC Current Gain



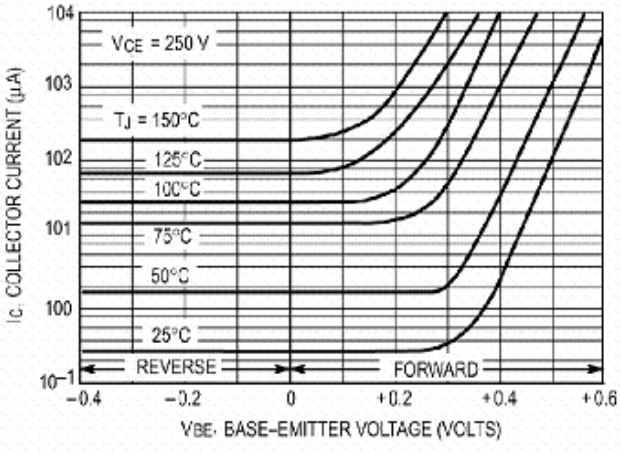
Collector Saturation Region



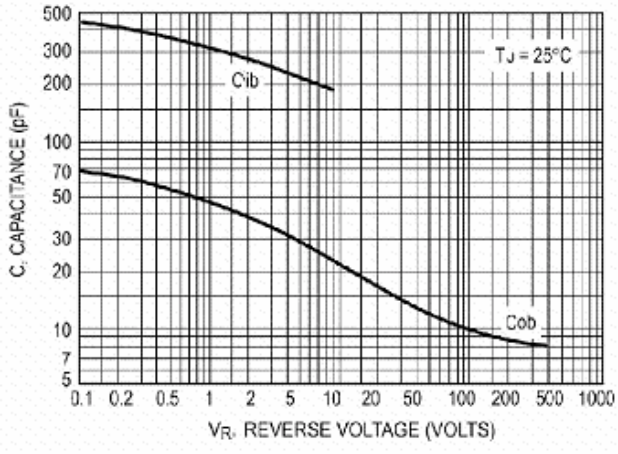
Base–Emitter Voltage



Collector–Emitter Saturation Region



Collector Cutoff Region



Capacitance

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Ordering Information :

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

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

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