



Micro Commercial Components



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MJE13003A

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
- Capable of 1.25Watts of Power Dissipation.
- Collector-current 1.5A
- Collector-base Voltage 700V
- Operating and storage junction temperature range: -55°C 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 ($I_C=10mA$, $I_E=0$)	400		Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_C=1000\mu A$, $I_E=0$)	700		Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_E=1000\mu A$, $I_C=0$)	9.0		Vdc
I_{CBO}	Collector Cutoff Current ($V_{CB}=700V$, $I_E=0$)		1000	μA
I_{CEO}	Collector Cutoff Current ($V_{CE}=400V$, $I_B=0$)		500	μA
I_{EBO}	Emitter Cutoff Current ($V_{EB}=9.0V$, $I_C=0$)		1000	μA

ON CHARACTERISTICS

$h_{FE(1)}$	DC Current Gain ($I_C=0.5A$, $V_{CE}=5.0V$)	8.0	40	
$h_{FE(2)}$	DC Current Gain ($I_C=1.5A$, $V_{CE}=5.0V$)	5.0		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=1000mA$, $I_B=250mA$)		1.0	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ($I_C=1000mA$, $I_B=250mA$)		1.2	Vdc
V_{BE}	Base-Emitter Voltage ($I_E=2000mA$)		3.0	Vdc

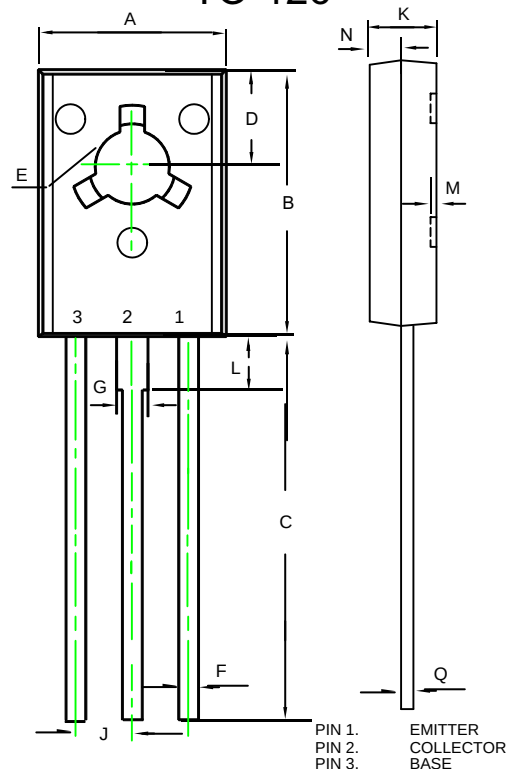
SMALL-SIGNAL CHARACTERISTICS

f_T	Transistor Frequency ($I_C=100mA$, $V_{CE}=10V$, $f=1.0MHz$)	5.0		MHz
t_F	Fall Time	$V_{CC}=100V$, $I_C=1.0A$, $I_{B1}=I_{B2}=0.2A$	0.5	μS
t_S	Storage Time		2.5	μS

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

NPN Silicon Plastic-Encapsulate Transistor

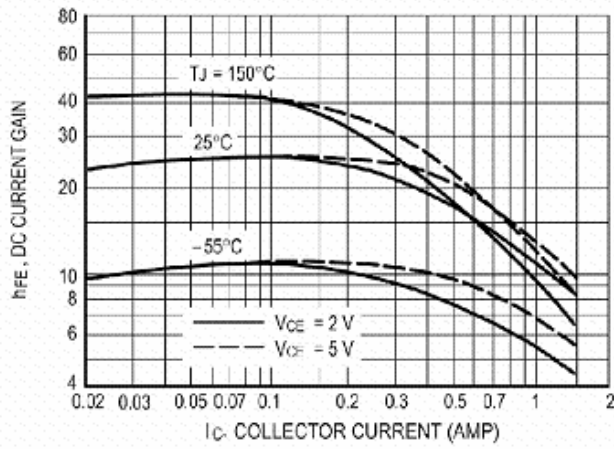
TO-18



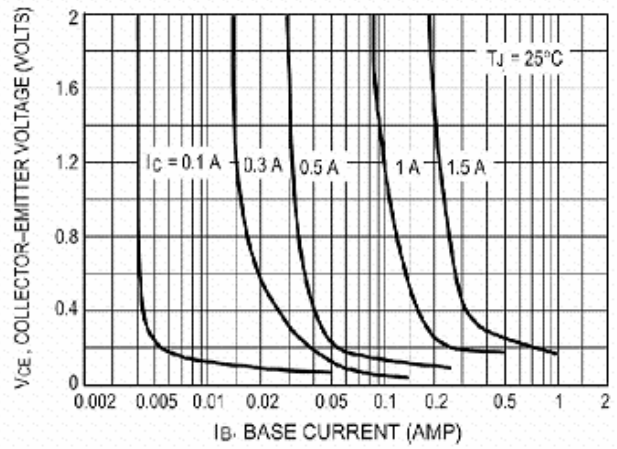
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.291	0.307	7.40	7.80	
B	0.417	0.433	10.60	11.00	
C	0.602	0.618	15.30	15.70	
D	0.154	0.161	3.90	4.10	
E	0.118	0.126	3.00	3.20	
F	0.026	0.034	0.66	0.86	
G	0.046	0.054	1.17	1.37	
J	0.090TYP		2.290TYP		
K	0.098	0.114	2.50	2.90	
L	0.083	0.091	2.10	2.30	
M	0.000	0.012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

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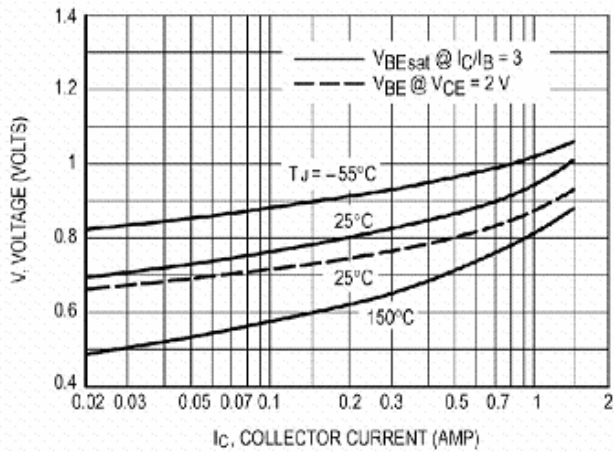
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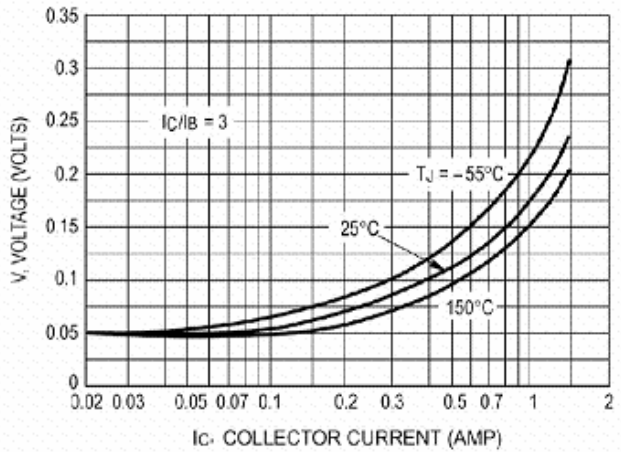
DC Current Gain



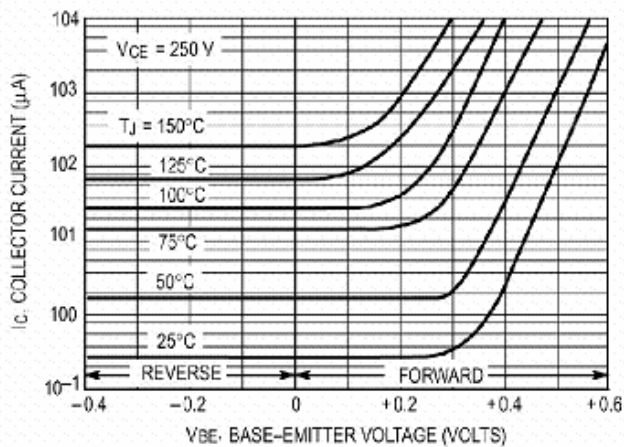
Collector Saturation Region



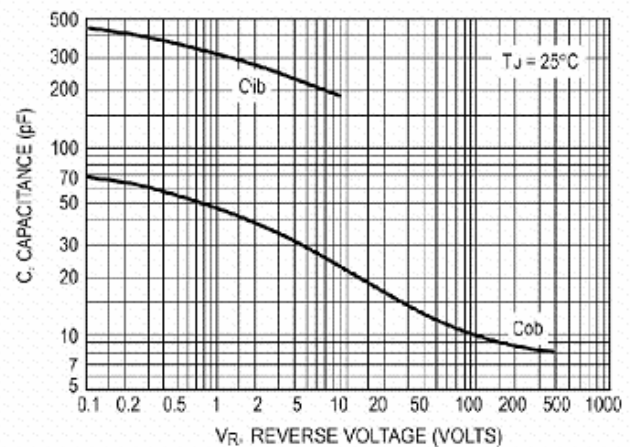
Base-Emitter Voltage



Collector-Emitter Saturation Region



Collector Cutoff Region



Capacitance

Ordering Information :

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

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