Micro Commercial Components

Micro Commercial Components
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TIP105
TIP106
TIP107

PNP Plastic Medium-Power Silicon Transistors

Features

- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- High DC Current Gain : h_{FE}=2500 (Typ) @ I_C=4.0Adc
- Low Collector-Emitter Saturation Voltage
- Monolithic Construction with Built-in Base-Emitter Shunt Resistors
- TO-220 Compact package
- Epoxy meets UL 94 V-0 flammability rating
- Moisure Sensitivity Level 1

Maximum Ratings

Symbol	Rating		Rating	Unit
V_{CEO}	Collector-Emitter Voltage	TIP105 TIP106 TIP107	60 80 100	V
V_{CBO}	Collector-Base Voltage	TIP105 TIP106 TIP107	60 80 100	V
V_{EBO}	Emitter-Base Voltage		5.0	V
I_C	Collector Current-continuous		8.0	A
I_{CP}	Collector Current-peak		15	A
I_B	Base Current		1.0	A
P_D	Collector Dissipation @T_C=25^{O}C Derate above 25 ^{O}C		80 0.64	W W/ ^{O}C
T_J,	Junction Temperature		-55 to +150	^{O}C
T_{STG}	Storage Temperature		-55 to +150	^{O}C

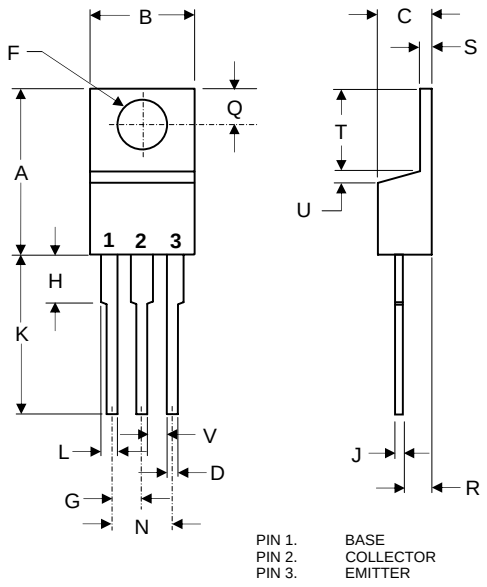
Electrical Characteristics @ 25ºC Unless Otherwise Specified

Symbol	Parameter		Min	Max	Units
OFF CHARACTERISTICS					
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage (I_C=30mAdc, I_B=0)	TIP105 TIP106 TIP107	60 80 100	--- --- ---	Vdc
I_{CEO}	Collector Cut-off Current (V_{CE}=30Vdc, I_B=0) (V_{CE}=40Vdc, I_B=0) (V_{CE}=50Vdc, I_B=0)	 TIP105 TIP106 TIP107	 --- --- ---	 50 50 50	uAdc
I_{CBO}	Collector Cut-off Current (V_{CB}=60Vdc, I_E=0) (V_{CB}=80Vdc, I_E=0) (V_{CB}=100Vdc, I_E=0)	 TIP105 TIP106 TIP107	 --- --- ---	 50 50 50	uAdc
I_{EBO}	Emitter Cut-off Current (V_{BE}=5.0Vdc, I_C=0)		 ---	 8.0	mAdc
ON CHARACTERISTICS (1)					
$h_{FE(1)}$	DC Current Gain (I_C=3.0Adc, V_{CE}=4.0Vdc) (I_C=8.0Adc, V_{CE}=4.0Vdc)		 1000 200	 20000 ---	----
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage (I_C=3.0Adc, I_B=6.0mAdc) (I_C=8.0Adc, I_B=80mAdc)		 --- ---	 2.0 2.5	Vdc
$V_{BE(ON)}$	Base-Emitter On Voltage (I_C=8.0Adc,V_{CE}=4.0Adc)		 ---	 2.8	Vdc
hfe	Small-Signal Current Gain (I_C=3.0Adc,V_{CE}=4.0Vdc,f=1.0MHz)		 4.0	 ---	---
C_{ob}	Output Capacitance (V_{CB}=10V, I_E=0, f=0.1MHz)		 ---	 300	pF

(1) Pulse Test: Pulse Width<300us, Duty Cycle<2%

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

TO-220



PIN 1. BASE
PIN 2. COLLECTOR
PIN 3. EMITTER

DIMENSIONS					
	INCHES		MM		
DIM	MIN	MAX	MIN	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	∅
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	-----	

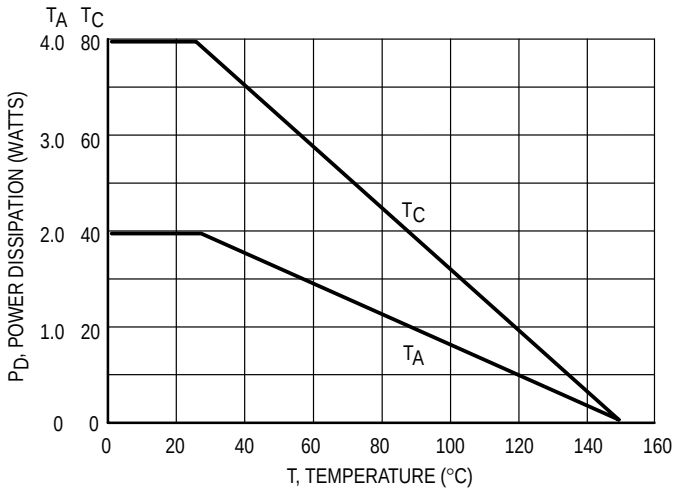


Figure 1. Power Derating

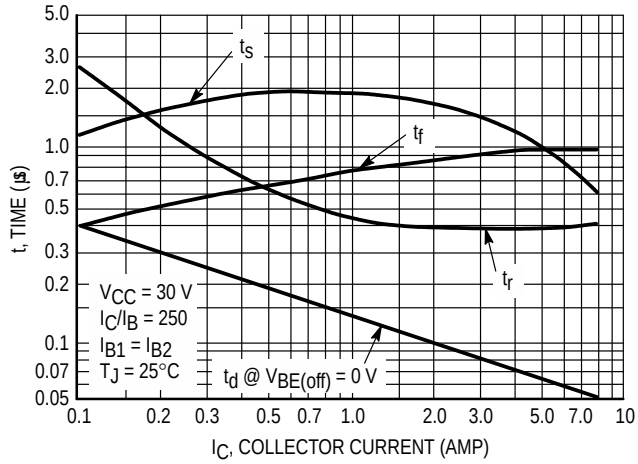


Figure 2. Switching Times

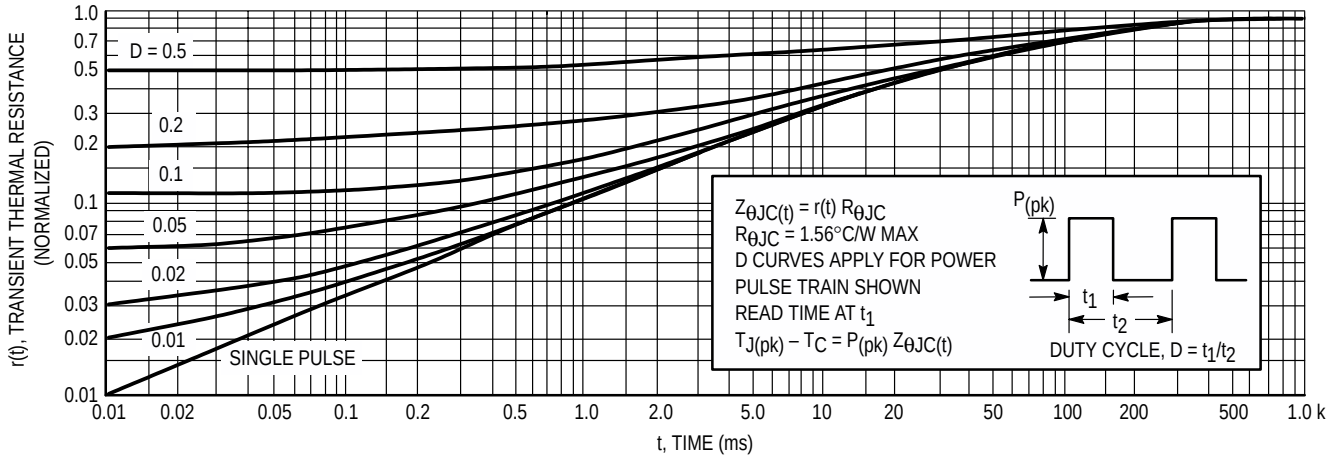


Figure 3. Thermal Response

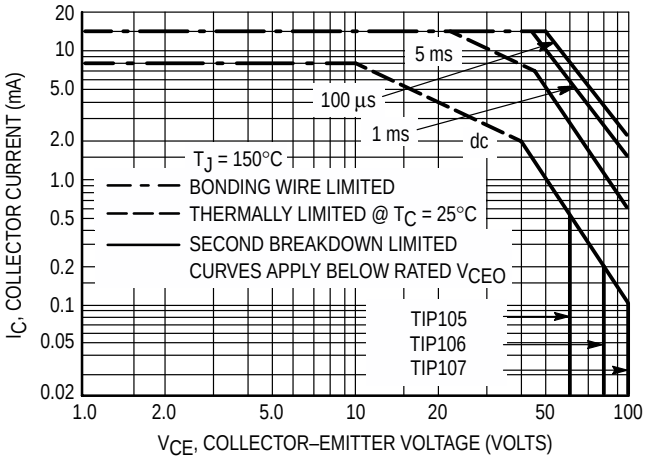


Figure 4. Active–Region Safe Operating Area

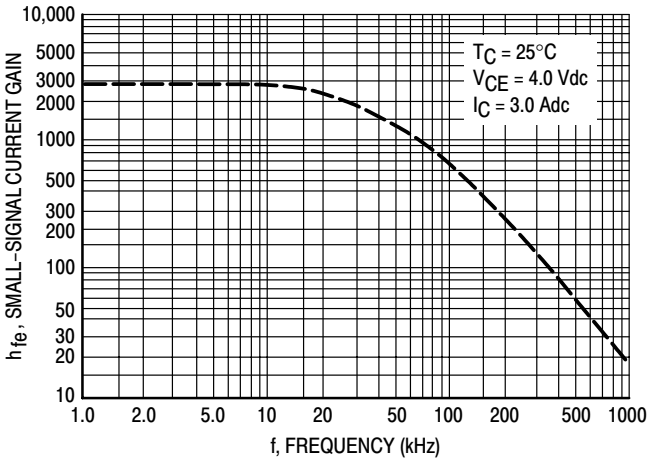


Figure 5. Small–Signal Current Gain

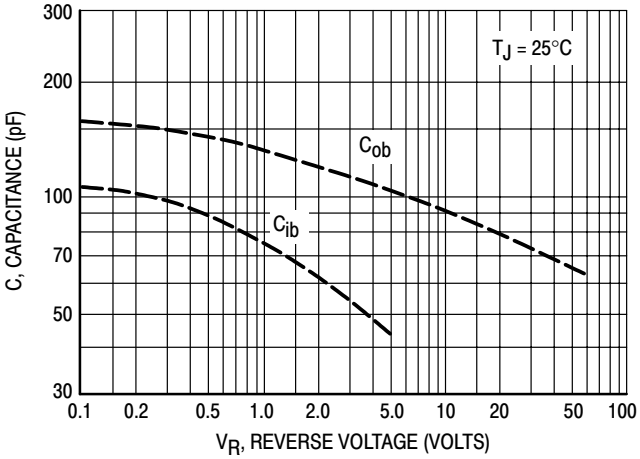


Figure 6. Capacitance

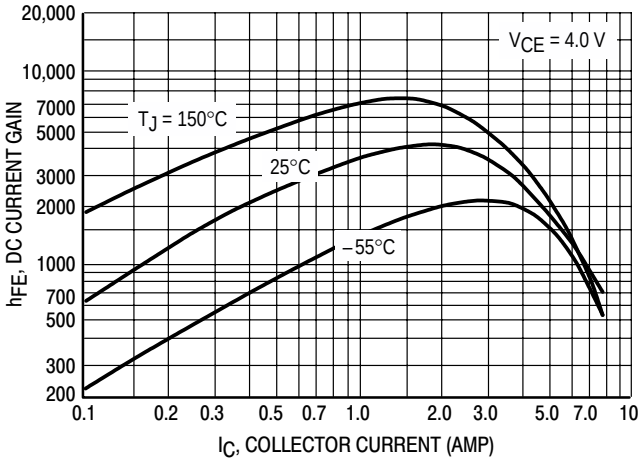


Figure 7. DC Current Gain

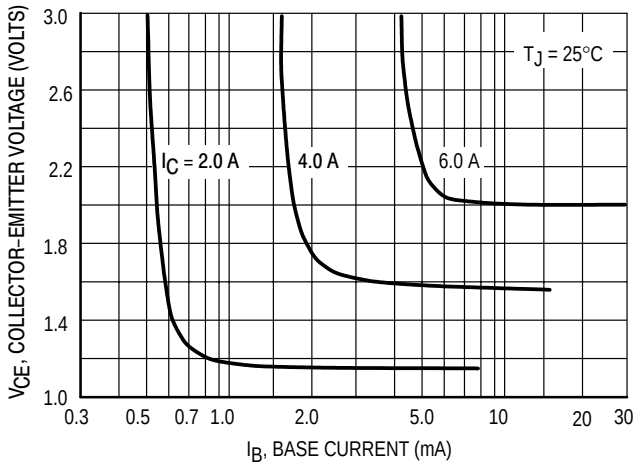


Figure 8. Collector Saturation Region

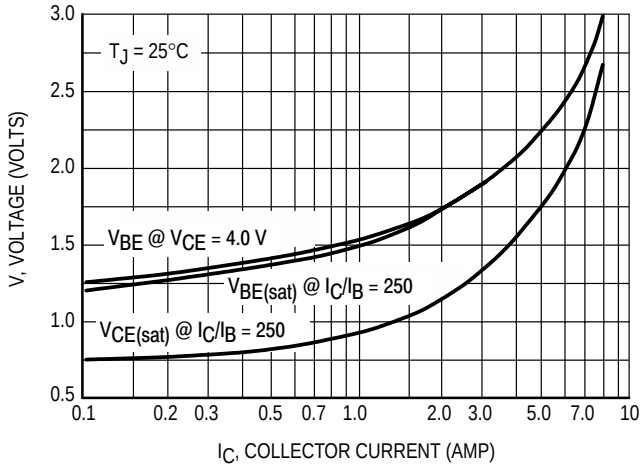


Figure 9. "On" Voltages

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Ordering Information :

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

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