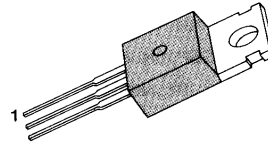


**HIGH VOLTAGE AND SWITCHING
APPLICATIONS**
HIGH SUSTAINING VOLTAGE
(V_{CEO(sus)}: 250 to 400V)
1A RATED COLLECTOR CURRENT

ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector Base Voltage :TIP47	V _{CBO}	350	V
:TIP48		400	V
:TIP49		450	V
:TIP50		500	V
Collector Emitter Voltage : TIP47	V _{CEO}	250	V
:TIP48		300	V
:TIP49		350	V
:TIP50		400	V
Emitter-Base Voltage	V _{EBO}	5	V
Collector Current (DC)	I _C	1	A
Collector Current (Pulse)	I _C	2	A
Base Current	I _B	0.6	A
Collector Dissipation (T _C =25°C)	P _C	40	W
Collector Dissipation (T _A =25°C)	P _C	2	W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-65 ~ 150	°C

TO-220



1.Base 2.Collector 3.Emitter

ELECTRICAL CHARACTERISTICS (T_C =25°C)

Characteristic	Symbol	Test Conditions	Min	Max	Unit
Collector Emitter Sustaining Voltage : TIP47 : TIP48 : TIP49 : TIP50	V _{CEX(sus)}	I _C = 30mA, I _B = 0	250 300 350 400		V V V V
Collector Cutoff Current : TIP47 : TIP48 : TIP49 : TIP50	I _{CEO}	V _{CE} = 150V, I _B = 0 V _{CE} = 200V, I _B = 0 V _{CE} = 250V, I _B = 0 V _{CE} = 300V, I _B = 0		1 1 1 1	mA mA mA mA
Collector Cutoff Current : TIP47 : TIP48 : TIP49 : TIP50	I _{CEX}	V _{CE} = 350V, V _{BE} = 0 V _{CE} = 400V, V _{BE} = 0 V _{CE} = 450V, V _{BE} = 0 V _{CE} = 500V, V _{BE} = 0		1 1 1 1	mA mA mA mA
Emitter Cutoff Current	I _{EBO}	V _{EB} = 5V, I _C = 0		1	mA
*DC Current Gain	h _{FE}	V _{CE} = 10V, I _C = 0.3A V _{CE} = 10V, I _C = 1A	30 10	150	
*Collector Emitter Saturation Voltage	V _{CE(sat)}	I _C = 1A, I _B = 0.2A		1	V
*Base Emitter On Voltage	V _{BE(on)}	V _{CE} = 10V, I _C = 1A		1.5	V
Current Gain Bandwidth Product	f _T	V _{CE} = 10V, I _C = 0.2A, f = 1kHz	10		MHz
Turn On Time	t _{ON}	V _{CC} = 400V		0.5	μs
Storage Time	t _{STG}	5I _{B1} = -2.5I _{B2} = I _C = 6A		3	μs
Fall Time	t _F	RL = 66.7Ω		0.3	μs

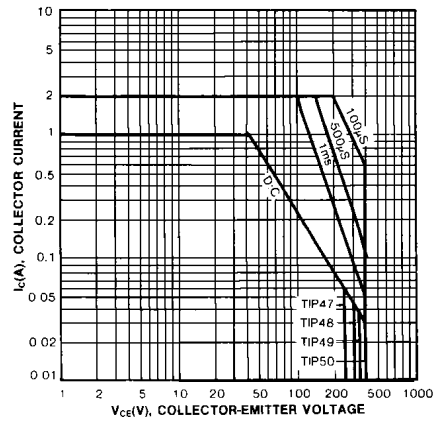
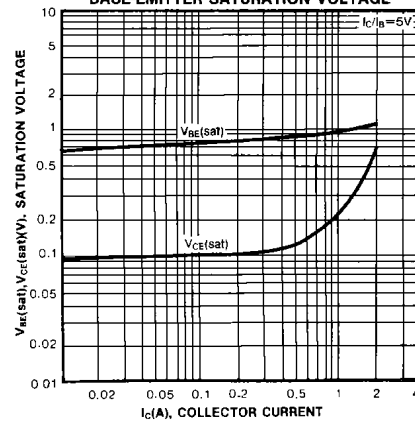
* Pulse Test: PW ≤ 300μs, duty Cycle ≤ 2% Pulse

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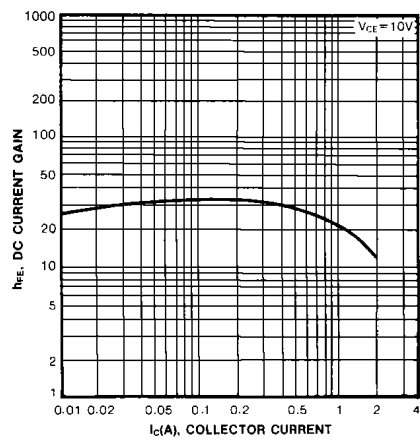
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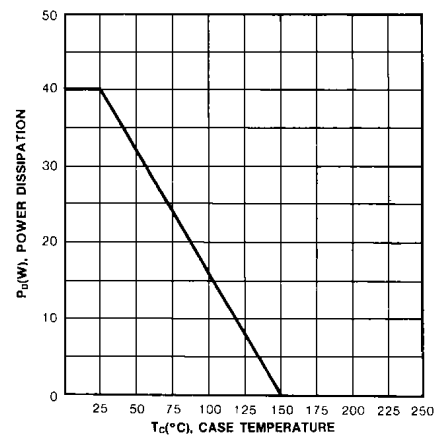
SAFE OPERATING AREA

COLLECTOR-EMITTER SATURATION VOLTAGE
BASE-EMITTER SATURATION VOLTAGE

DC CURRENT GAIN



POWER DERATING



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