

HIGH VOLTAGE AND SWITCHING APPLICATIONS

HIGH SUSTAINING VOLTAGE

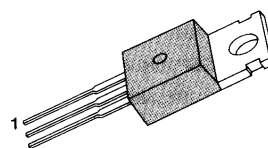
($V_{CEO(sus)}$: 250 to 400V)

1A RATED COLLECTOR CURRENT

ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector Emitter 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 ($T_C=25^{\circ}C$)	P_C	40	W
Collector Dissipation ($T_A=25^{\circ}C$)	P_C	2	W
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-65 ~ 150	$^{\circ}C$

TO-220



1.Base 2.Collector 3.Emitter

ELECTRICAL CHARACTERISTICS ($T_C = 25^{\circ}C$)

Characteristic	Symbol	Test Conditions	Min	Max	Unit
Collector Emitter Sustaining Voltage	$V_{CEX(sus)}$	$I_C = 30mA, I_B = 0$	250		V
: TIP47			300		V
: TIP48			350		V
: TIP49			400		V
Collector Cutoff Current : TIP50	I_{CEO}	$V_{CE} = 150V, I_B = 0$		1	mA
: TIP47		$V_{CE} = 200V, I_B = 0$		1	mA
: TIP48		$V_{CE} = 250V, I_B = 0$		1	mA
: TIP49		$V_{CE} = 300V, I_B = 0$		1	mA
Collector Cutoff Current : TIP50	I_{CEX}	$V_{CE} = 350V, V_{BE} = 0$		1	mA
: TIP47		$V_{CE} = 400V, V_{BE} = 0$		1	mA
: TIP48		$V_{CE} = 450V, V_{BE} = 0$		1	mA
: TIP49		$V_{CE} = 500V, V_{BE} = 0$		1	mA
Emitter Cutoff Current : TIP50	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 Saturation 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	$RL = 66.7\Omega$		0.3	μs

* Pulse Test : $PW \leq 300\mu s$, duty Cycle $\leq 2\%$ Pulse

