

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 350V$ (Min.)
- High Switching Speed

APPLICATIONS

Designed for high voltage, high speed , power switching in Inductive circuits where fall time is critical. They are particularly suited for line operated switch-mode applications as:

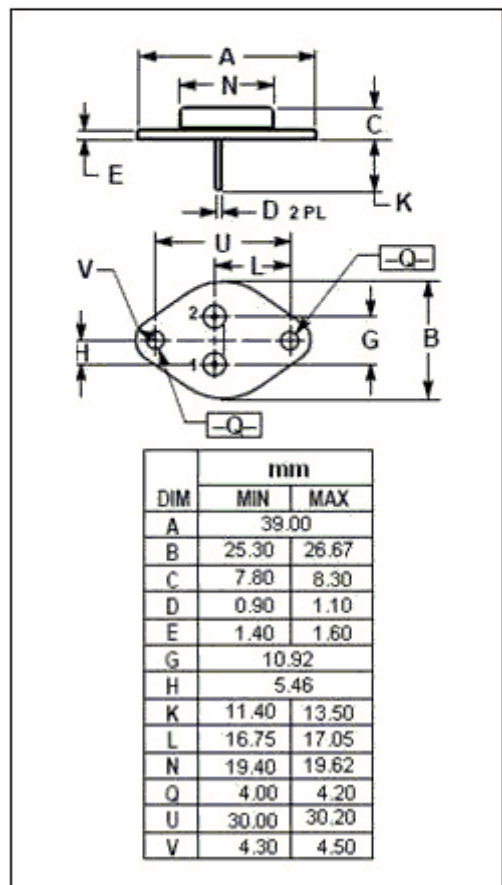
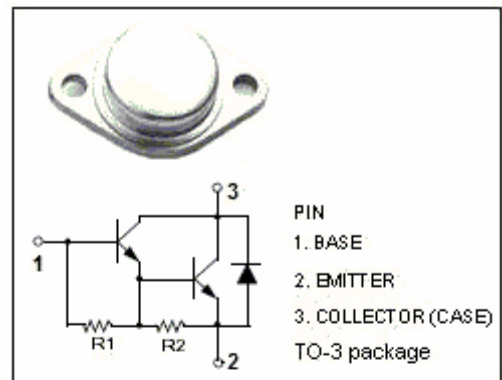
- Switching Regulators
- Inverters
- Solenoid and Relay Drivers
- Motor Controls
- Deflection Circuits

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ C$)

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Voltage	350	V
$V_{CEX(SUS)}$	Collector-Emitter Voltage	400	V
V_{CEV}	Collector-Emitter Voltage	450	V
V_{EBO}	Emitter-Base Voltage	8	V
I_C	Collector Current-Continuous	10	A
I_{CM}	Collector Current-Peak	20	A
I_B	Base Current-Continuous	2.5	A
I_{BM}	Base Current-Peak	5.0	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ C$	150	W
T_j	Junction Temperature	200	$^\circ C$
T_{stg}	Storage Temperature Range	-65~200	$^\circ C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	1.17	$^\circ C/W$



ELECTRICAL CHARACTERISTICS
 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=0.25\text{A}; I_B=0$	350			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=0.25\text{A}$ $I_C=5\text{A}; I_B=0.25\text{A}, T_C=100^{\circ}\text{C}$			1.9 2.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=1\text{A}$			2.9	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=0.25\text{A}$ $I_C=5\text{A}; I_B=0.25\text{A}, T_C=100^{\circ}\text{C}$			2.5 2.5	V
I_{CEV}	Collector Cutoff Current	$V_{CE}=450\text{V}; V_{BE(off)}=1.5\text{V}$ $V_{CE}=450\text{V}; V_{BE(off)}=1.5\text{V}; T_C=150^{\circ}\text{C}$			0.25 5.0	mA
I_{CER}	Collector Cutoff Current	$V_{CE}=450\text{V}; R_{BE}=50\Omega; T_C=100^{\circ}\text{C}$			5.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=8\text{V}; I_C=0$			175	mA
h_{FE-1}	DC Current Gain	$I_C=2.5\text{A}, V_{CE}=5\text{V}$	40			
h_{FE-2}	DC Current Gain	$I_C=5\text{A}, V_{CE}=5\text{V}$	30			
V_{ECF}	C-E Diode Forward Voltage	$I_F=5\text{A}$			5.0	V
C_{OB}	Output Capacitance	$I_E=0, V_{CB}=50\text{V}; f_{test}=0.1\text{MHz}$	60		275	pF

Switching Times; Resistive Load

t_d	Delay Time	$V_{CC}=250\text{V}; I_C=5\text{A}; I_{B1}=0.25\text{A}$ $V_{BE(off)}=5\text{V}$ $t_p=50\mu\text{s}, \text{Duty Cycle}\leq 2\%$		0.05	0.2	μs
t_r	Rise Time			0.25	0.6	μs
t_s	Storage Time			1.2	3.0	μs
t_f	Fall Time			0.6	1.5	μs