

**DESCRIPTION**

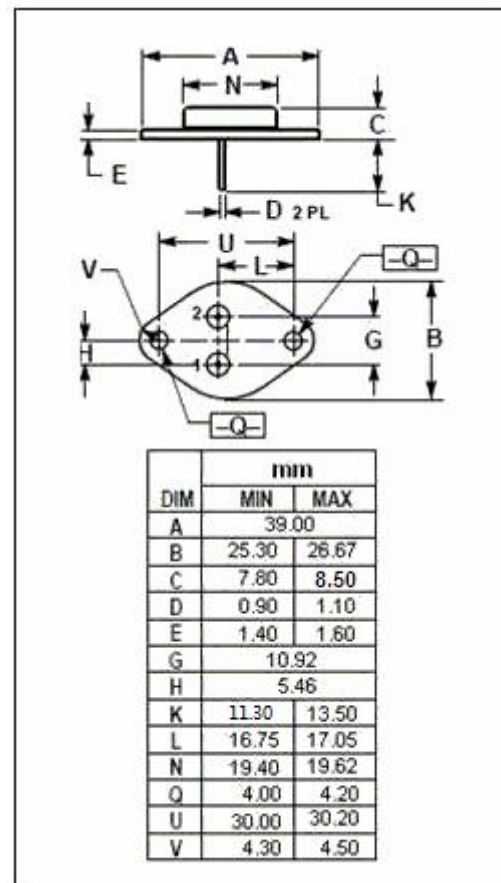
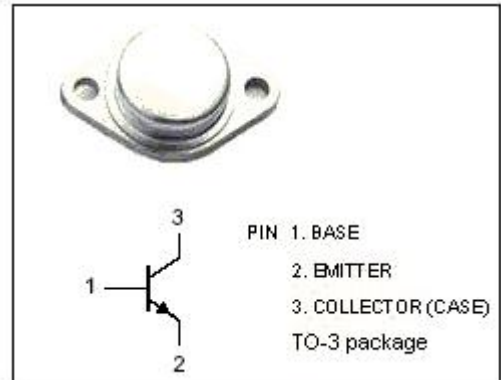
- High Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(sus)} = 400V(\text{Min})$
- High Switching Speed
- Wide Area of Safe Operation

**APPLICATIONS**

- Switching regulators
- Motor controls
- Ultrasonic generators
- Class C and D amplifiers
- Deflection circuits

**ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	600	V
$V_{CEO}$	Collector-Emitter Voltage	400	V
$V_{EBO}$	Emitter-Base voltage	7	V
$I_C$	Collector Current-Continuous	30	A
$I_{CM}$	Collector Current-Peak	50	A
$I_B$	Base Current-Continuous	10	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	200	W
$T_J$	Junction Temperature	175	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~175	$^\circ\text{C}$



**ELECTRICAL CHARACTERISTICS**

T<sub>c</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 30mA; R <sub>BE</sub> = ∞	400			V
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = 1 mA; I <sub>E</sub> = 0	600			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 1mA; I <sub>C</sub> = 0	7			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 20A; I <sub>B</sub> = 4A			1.0	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 20A; I <sub>B</sub> = 4A			1.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 500V; I <sub>E</sub> = 0 V <sub>CB</sub> = 500V; I <sub>E</sub> = 0; T <sub>C</sub> = 100°C			0.1 2.0	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 6V; I <sub>C</sub> = 0			100	μ A
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 20A; V <sub>CE</sub> = 5V	10		40	
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 4A; V <sub>CE</sub> = 10V	15			MHz
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0; V <sub>CB</sub> = 10V; f <sub>test</sub> = 1.0MHz		420		pF

Switching times

t <sub>r</sub>	Rise Time	I <sub>C</sub> = 20A, I <sub>B1</sub> = -I <sub>B2</sub> = 4A; V <sub>CC</sub> = 150V			0.5	μ s
t <sub>stg</sub>	Storage Time				3.0	μ s
t <sub>f</sub>	Fall Time				0.3	μ s