

**DESCRIPTION**

- High Voltage Capability
- Fast Switching Speed
- Low Saturation Voltage

**APPLICATIONS**

Designed for high voltage switching applications such as:

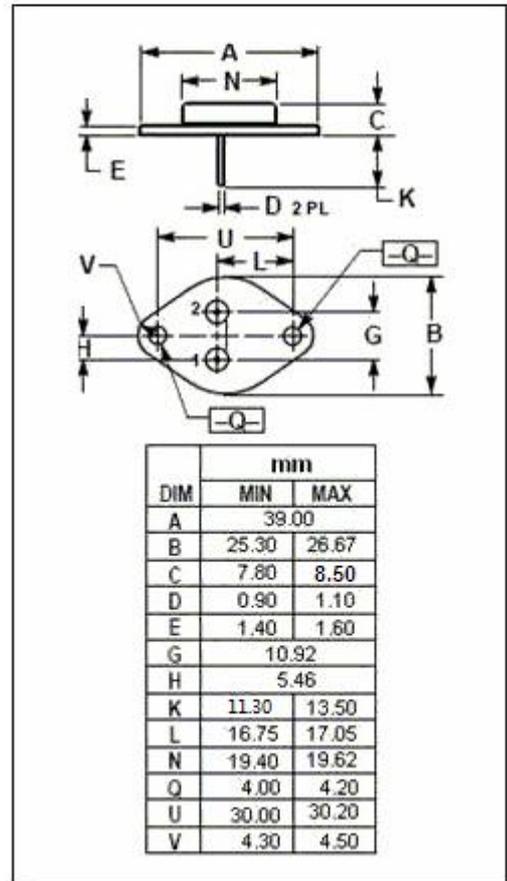
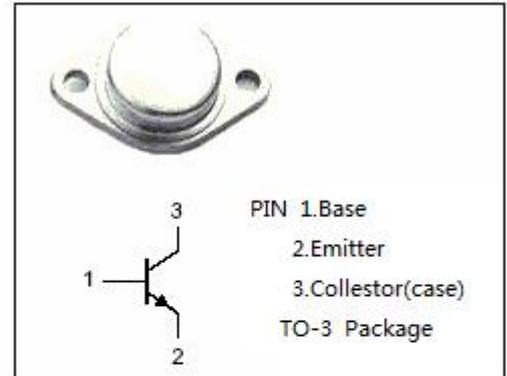
- Off-line power supplies
- Converter circuits
- PWM regulators

**ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C)**

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CEV</sub>	Collector-Emitter Voltage	650	V
V <sub>CEx</sub>	Collector-Emitter Voltage	450	V
V <sub>CEO</sub>	Collector-Emitter Voltage	400	V
V <sub>EBO</sub>	Emitter-Base Voltage	8.0	V
I <sub>C</sub>	Collector Current-Continuous	15	A
I <sub>CM</sub>	Collector Current-Peak	20	A
I <sub>B</sub>	Base Current-Continuous	5.0	A
P <sub>C</sub>	Collector Power Dissipation@T <sub>c</sub> =25°C	175	W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-65~150	°C

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal Resistance, Junction to Case	1.0	°C/W



**ELECTRICAL CHARACTERISTICS**

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=50\text{mA}; I_B=0$	400		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C= 15\text{A}; I_B= 3.0\text{A}$		1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C= 15\text{A}; I_B= 3.0\text{A}$		1.5	V
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}= 8.0\text{V}; I_C=0$		2.0	mA
$h_{FE}$	DC Current Gain	$I_C= 15\text{A}; V_{CE}= 3\text{V}$	8.0		
$f_T$	Current Gain-Bandwidth Product	$I_C= 1.0\text{A}; V_{CE}= 10\text{V}; f_{test}=5.0\text{MHz}$	3.0		MHz
$C_{OB}$	Output Capacitance	$I_E= 0; V_{CB}= 10\text{V}; f_{test}=0.1\text{MHz}$		500	pF

Switching times

$t_d$	Delay Time	$I_C= 15\text{A}, V_{CC}= 200\text{V}, I_{B1}= -I_{B2}= 3\text{A},$ $t_p=20 \mu\text{s}, \text{Duty Cycle} \leq 2.0\%$ $V_{BB}=6\text{V}, R_L=13.5 \Omega$		0.2	$\mu\text{s}$
$t_r$	Rise Time			0.6	$\mu\text{s}$
$t_s$	Storage Time			2.5	$\mu\text{s}$
$t_f$	Fall Time			0.6	$\mu\text{s}$

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