

**DESCRIPTION**

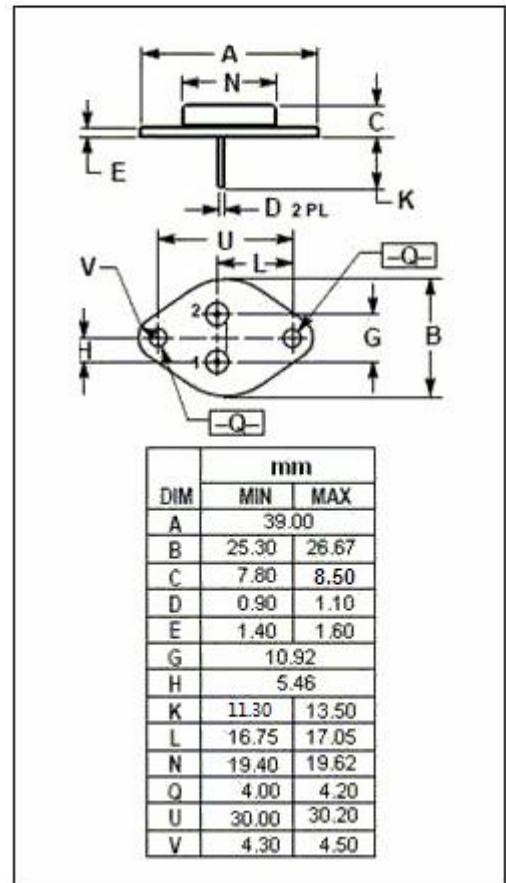
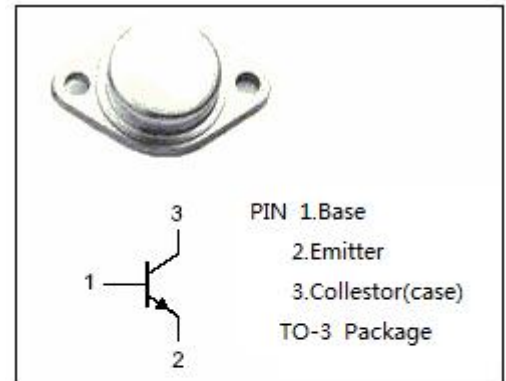
- Excellent Safe Operating Area
- DC Current Gain- $h_{FE} = 40-120 @ I_C = 5A$
- Collector-Emitter Saturation Voltage-  
:  $V_{CE(sat)} = 1.5V(Max) @ I_C = 5A$
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 60V(Min)$

**APPLICATIONS**

- Designed for switching and amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	80	V
$V_{CEO}$	Collector-Emitter Voltage	60	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current-Continuous	7.5	A
$I_B$	Base Current-Continuous	4	A
$P_C$	Collector Power Dissipation@ $T_C = 25^\circ C$	115	W
$T_J$	Junction Temperature	200	$^\circ C$
$T_{stg}$	Storage Temperature	-65~200	$^\circ C$



**ELECTRICAL CHARACTERISTICS**

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CE0(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C= 50\text{mA}; I_B= 0$	60		V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C= 1\text{mA}; I_E= 0$	80		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C= 5\text{A}; I_B= 0.5\text{A}$		1.5	V
$V_{BE(sat)}$	Base -Emitter Saturation Voltage	$I_C= 5\text{A}; I_B= 0.5\text{A}$		1.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C= 5\text{A}; V_{CE}= 5\text{V}$		1.4	V
$I_{CEO}$	Collector Cutoff Current	$V_{CE}= 40\text{V}; I_B= 0$		1.0	mA
$I_{CEX}$	Collector Cutoff Current	$V_{CE}= 60\text{V}; V_{BE}= -1\text{V}$ $V_{CE}= 60\text{V}; V_{BE}= -1\text{V}; T_C= 150^{\circ}\text{C}$		0.1 1.0	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}= 6\text{V}; I_C= 0$		0.25	mA
$h_{FE-1}$	DC Current Gain	$I_C= 0.5\text{A}; V_{CE}= 5\text{V}$	40		
$h_{FE-2}$	DC Current Gain	$I_C= 3\text{A}; V_{CE}= 5\text{V}$	40	120	
$C_{OB}$	Output Capacitance	$I_E= 0; V_{CB}= 10\text{V}; f= 0.1\text{MHz}$		400	pF

Switching Times

$t_{on}$	Turn-On Time	$I_C= 5\text{A}; I_{B1}= -I_{B2}= 0.5\text{A};$ $V_{CC}= 25\text{V}; R_L= 5\Omega;$		0.35	$\mu\text{s}$
$t_{stg}$	Storage Time			2.0	$\mu\text{s}$
$t_f$	Fall Time			0.35	$\mu\text{s}$