

**DESCRIPTION**

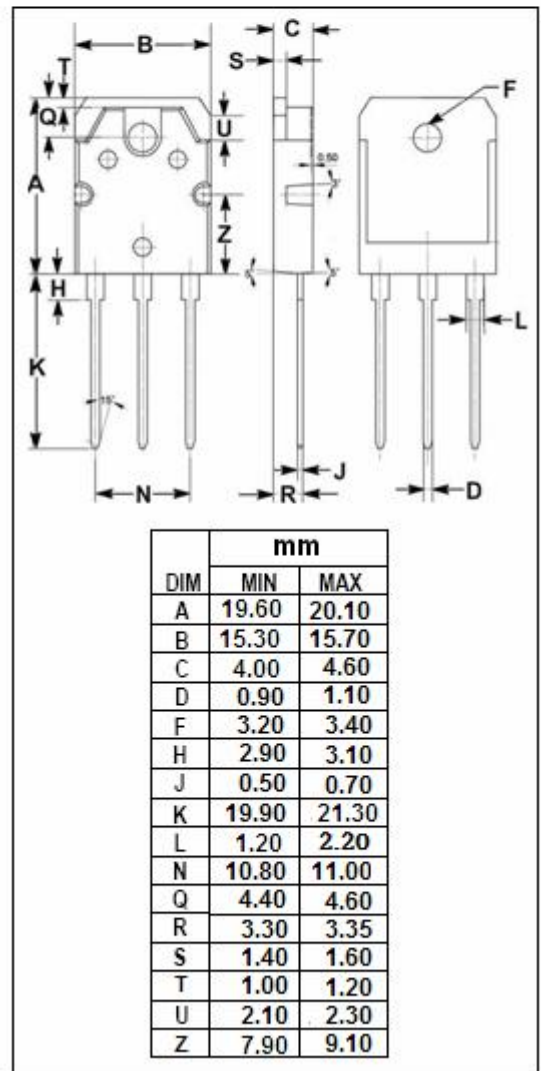
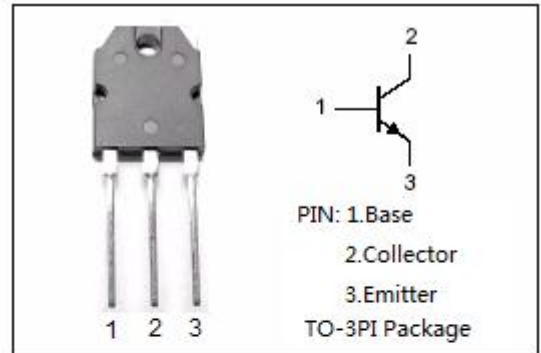
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 50V$  (Min)
- Low Collector-Emitter Saturation Voltage-  
:  $V_{CE(sat)} = 0.4V$  (Max)@ $I_C = 6.0A$
- High Collector Power Dissipation  
:  $P_C = 80W$  @ $T_C = 25^\circ C$

**APPLICATIONS**

- High power switching applications
- DC-DC converter and DC-AC inverter applications

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	70	V
$V_{CEO}$	Collector-Emitter Voltage	50	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	10	A
$I_B$	Base Current-Continuous	2.5	A
$P_C$	Collector Power Dissipation @ $T_C = 25^\circ C$	80	W
$T_J$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ C$



**ELECTRICAL CHARACTERISTICS**

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=1\text{mA}; I_B=0$	50			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=6\text{A}; I_B=0.3\text{A}$			0.4	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=6\text{A}; I_B=0.3\text{A}$			1.2	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=70\text{V}; I_E=0$			10	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			10	$\mu\text{A}$
$h_{FE-1}$	DC Current Gain	$I_C=1\text{A}; V_{CE}=1\text{V}$	70		240	
$h_{FE-2}$	DC Current Gain	$I_C=6\text{A}; V_{CE}=1\text{V}$	30			
$f_T$	Current-Gain—Bandwidth Product	$I_C=1\text{A}; V_{CE}=4\text{V}$		10		MHz
$C_{OB}$	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{test}=1.0\text{MHz}$		350		pF

Switching times

$t_{on}$	Turn-on Time	$I_C=6\text{A}, I_{B1}=I_{B2}=0.3\text{A};$ $R_L=5\Omega; V_{CC}=30\text{V};$ $P_W=20\mu\text{s}; \text{Duty Cycle} \leq 1\%$		0.3		$\mu\text{s}$
$t_{stg}$	Storage Time			2.5		$\mu\text{s}$
$t_f$	Fall Time			0.4		$\mu\text{s}$

◆  **$h_{FE-1}$  Classifications**

O	Y
70-140	120-240

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