

**DESCRIPTION**

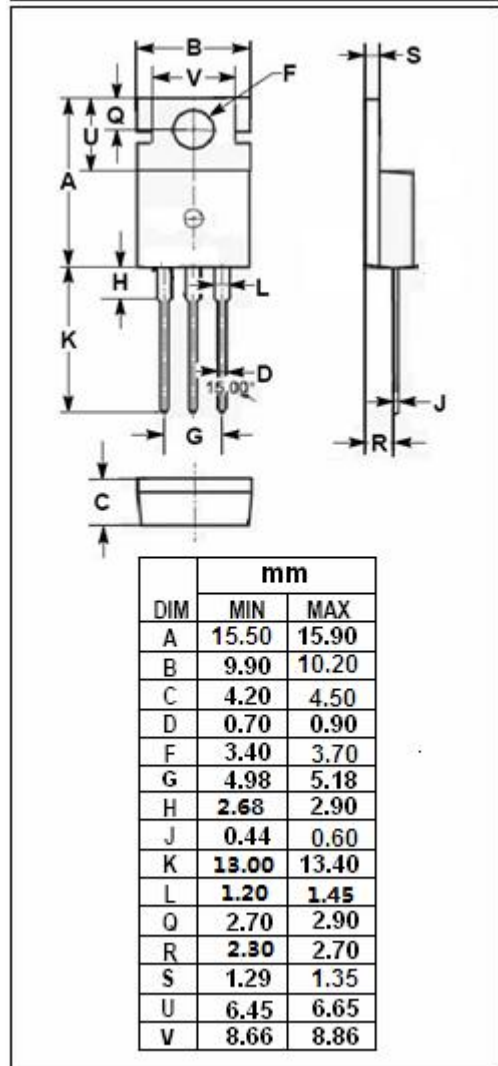
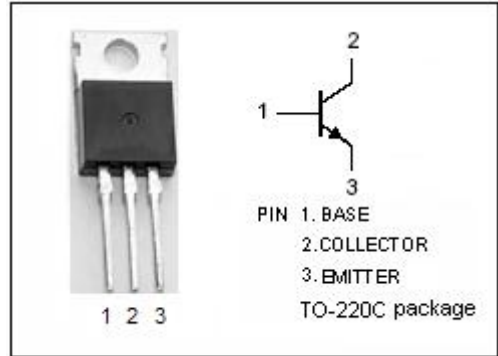
- Low Collector Saturation Voltage
- Fast Switching Speed

**APPLICATIONS**

- Designed for high-speed switching, and is ideal for use as a driver in devices such as switching regulators, DC/DC converters, and high frequency power amplifiers.

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

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CBO</sub>	Collector-Base Voltage	150	V
V <sub>CEO</sub>	Collector-Emitter Voltage	100	V
V <sub>EBO</sub>	Emitter-Base Voltage	12	V
I <sub>C</sub>	Collector Current-Continuous	5	A
I <sub>CM</sub>	Collector Current-Peak	10	A
I <sub>B</sub>	Base Current-Continuous	2.5	A
P <sub>C</sub>	Total Power Dissipation @ T <sub>C</sub> =25°C	30	W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature Range	-55~150	°C



**ELECTRICAL CHARACTERISTICS**

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C= 50\text{mA}; I_B= 0$	100		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C= 3.0\text{A}; I_B= 0.3\text{A}$		0.6	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C= 3.0\text{A}; I_B= 0.3\text{A}$		1.5	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}= 100\text{V}; I_E= 0$		10	$\mu\text{A}$
$I_{CER}$	Collector Cutoff Current	$V_{CE}= 100\text{V}; R_{BE}= 51\ \Omega, T_a=125^{\circ}\text{C}$		1.0	mA
$I_{CEX}$	Collector Cutoff Current	$V_{CE}= 100\text{V}; V_{BE(off)}= -1.5\text{V}$ $V_{CE}= 100\text{V}; V_{BE(off)}= -1.5\text{V}, T_a=125^{\circ}\text{C}$		10 1.0	$\mu\text{A}$ mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}= 10\text{V}; I_C=0$		10	$\mu\text{A}$
$h_{FE-1}$	DC Current Gain	$I_C= 0.2\text{A}; V_{CE}= 5\text{V}$	40		
$h_{FE-2}$	DC Current Gain	$I_C= 2\text{A}; V_{CE}= 5\text{V}$	40	200	

Switching times

$t_{on}$	Turn-on Time	$I_C= 3.0\text{A}, R_L= 17\ \Omega,$ $I_{B1}= -I_{B2}= 0.3\text{A}, V_{CC}\approx 50\text{V}$		0.5	$\mu\text{s}$
$t_{stg}$	Storage Time			2.5	$\mu\text{s}$
$t_f$	Fall Time			0.5	$\mu\text{s}$

◆  **$h_{FE-2}$  Classifications**

M	L	K
40-80	60-120	100-200