

isc Silicon NPN Power Transistor

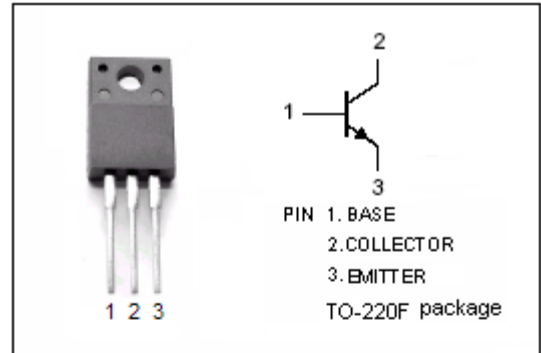
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DESCRIPTION

- High Voltage
- High Speed Switching

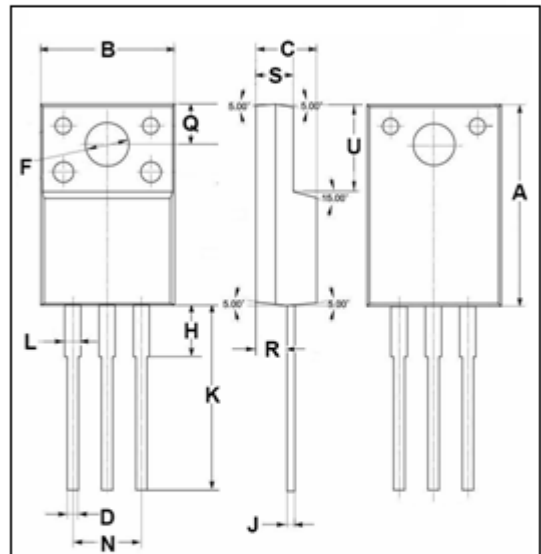
APPLICATIONS

- Converters
- Inverters
- Switching regulators
- Motor control systems



ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CES</sub>	Collector-Emitter Voltage V <sub>BE</sub> = 0	1000	V
V <sub>CEO</sub>	Collector-Emitter Voltage	450	V
V <sub>EBO</sub>	Emitter-Base Voltage	9	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	2	A
I <sub>BM</sub>	Base Current-Peak	4	A
P <sub>C</sub>	Collector Power Dissipation @T <sub>C</sub> =25°C	35	W
T <sub>j</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature Range	-65~150	°C



DIM	mm	
	MIN	MAX
A	14.95	15.05
B	10.00	10.10
C	4.40	4.60
D	0.75	0.80
F	3.10	3.30
H	3.70	3.90
J	0.50	0.70
K	13.4	13.6
L	1.10	1.30
N	5.00	5.20
Q	2.70	2.90
R	2.20	2.40
S	2.65	2.85
U	6.40	6.60

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal Resistance, Junction to Case	3.57	°C/W

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## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=0.1\text{A}; I_B=0$	450			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=2.5\text{A}; I_B=0.5\text{A}$			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=2.5\text{A}; I_B=0.5\text{A}$			1.3	V
$I_{CES}$	Collector Cutoff Current	$V_{CE}=1000\text{V}; V_{BE}=0$ $V_{CE}=1000\text{V}; V_{BE}=0; T_J=125^{\circ}\text{C}$			1.0 2.0	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=9\text{V}; I_C=0$			10	mA
$h_{FE-1}$	DC Current Gain	$I_C=5\text{mA}; V_{CE}=5\text{V}$	10		35	
$h_{FE-2}$	DC Current Gain	$I_C=0.5\text{A}; V_{CE}=5\text{V}$	10		35	

Switching Times; Resistive Load

$t_{on}$	Turn-on Time	$I_C=2.5\text{A}; I_{B1}=-I_{B2}=0.5\text{A}; V_{CC}=250\text{V}$			1.0	$\mu\text{s}$
$t_s$	Storage Time				4.0	$\mu\text{s}$
$t_f$	Fall Time				0.8	$\mu\text{s}$