

Silicon NPN Power Transistor

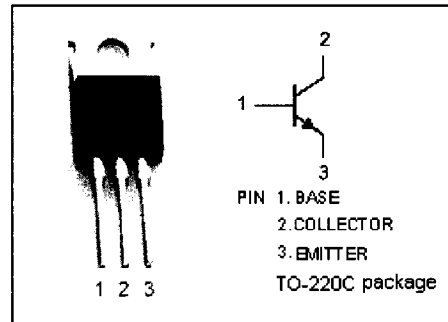
2N6739

DESCRIPTION

- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 350V(\text{Min})$
- High Switching Speed
- Low Saturation Voltage

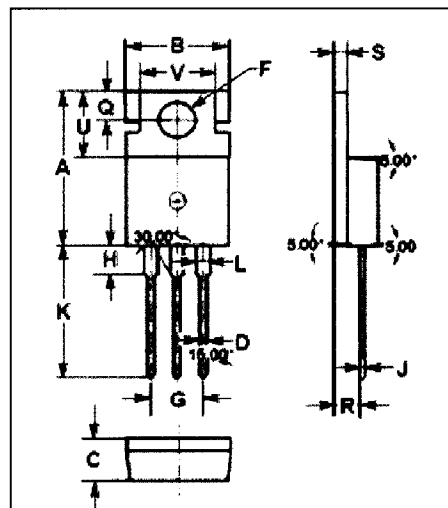
APPLICATIONS

- Designed for use in high-voltage, high-speed, power switching in inductive circuit, they are particularly suited for 115 and 220V switchmode applications such as switching regulators, inverters, DC-DC and converter.



ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CEV}$	Collector-Emitter Voltage- $V_{BE} = -1.5V$	550	V
$V_{CEX}$	Collector-Emitter Voltage- $V_{BE} = -1.5V$	400	V
$V_{CEO}$	Collector-Emitter Voltage	350	V
$V_{EBO}$	Emitter-Base Voltage	8	V
$I_C$	Collector Current-Continuous	8	A
$I_{CM}$	Collector Current-Peak	10	A
$I_B$	Base Current-Continuous	4	A
$P_C$	Collector Power Dissipation $T_C=25^\circ\text{C}$	100	W
$T_j$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$



DIM	mm	
	MIN	MAX
A	15.70	15.90
B	9.90	10.10
C	4.20	4.40
D	0.70	0.90
F	3.40	3.60
G	4.98	5.18
H	2.70	2.90
J	0.44	0.46
K	13.20	13.40
L	1.10	1.30
Q	2.70	2.90
R	2.50	2.70
S	1.29	1.31
U	6.45	6.65
V	8.66	8.86

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.25	$^\circ\text{C/W}$



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## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=200\text{mA}; I_B=0$	350		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=1\text{A}$		1	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=8\text{A}; I_B=4\text{A}$		2	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=1\text{A}$		1.6	V
$I_{CEV}$	Collector Cutoff Current	$V_{CEV}=550\text{V}; V_{BE(off)}=-1.5\text{V}$ $V_{CEV}=550\text{V}; V_{BE(off)}=-1.5\text{V}; T_J=100^\circ\text{C}$		0.1 1.0	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=8\text{V}; I_C=0$		2	mA
$h_{FE}$	DC Current Gain	$I_C=5\text{A}; V_{CE}=3\text{V}$	10	40	
$f_T$	Current-Gain—Bandwidth Product	$I_C=0.2\text{A}; V_{CE}=10\text{V}; f_{test}=1\text{MHz}$	10	60	MHz

## Switching Times; Resistive Load

$t_d$	Delay Time	$I_C=5\text{A}; I_{B1}=-I_{B2}=1\text{A}; V_{CC}=125\text{V};$ $t_p=20\mu\text{s}; \text{Duty Cycle}\leq 1\%$		0.1	$\mu\text{s}$
$t_r$	Rise Time			0.4	$\mu\text{s}$
$t_s$	Storage Time			2.5	$\mu\text{s}$
$t_f$	Fall Time			0.5	$\mu\text{s}$