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Silicon NPN Power Transistor

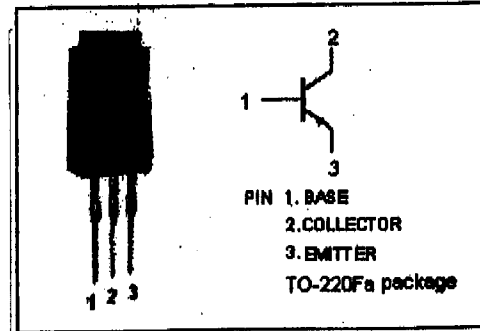
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DESCRIPTION

- High Collector-Emitter Breakdown Voltage-
 $V_{BR(CEO)} = 400V$ (Min)
- High Switching Speed

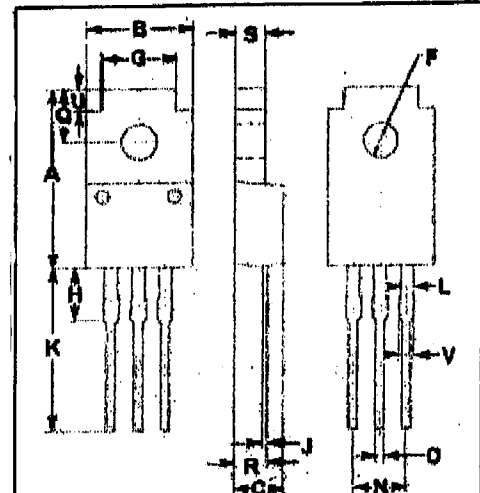
APPLICATIONS

- Switching regulator and high voltage switching applications.
- High speed DC-DC converter applications.



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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CB0}	Collector-Base Voltage	500	V
V_{CE0}	Collector-Emitter Voltage	400	V
V_{EB0}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	5	A
I_{Cp}	Collector Current Peak	7	A
I_B	Base Current Continuous	1	A
P_C	Collector Power Dissipation @ $T_c = 25^\circ C$	30	W
	Collector Power Dissipation @ $T_a = 25^\circ C$	2	
T_j	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-55~150	$^\circ C$



DIM	mm	
	MIN	MAX
A	10.00	17.15
B	9.90	10.10
C	4.35	4.65
D	0.75	0.80
F	3.20	3.45
G	6.90	7.10
H	5.15	5.45
J	0.45	0.75
K	13.35	13.65
L	1.10	1.30
N	4.90	5.10
Q	4.85	5.15
R	2.95	3.25
S	2.70	2.90
U	1.75	2.05
V	1.30	1.50



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Quality Semi-Conductors

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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	$I_C=10\text{mA}$, $I_B=0$	400			V
$V_{BR(CBS)}$	Collector-Base Breakdown Voltage	$I_C=1\text{mA}$, $I_E=0$	500			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}$, $I_B=1\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=5\text{A}$, $I_B=1\text{A}$			1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CE}=400\text{V}$, $I_E=0$			100	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=7\text{V}$, $I_C=0$			1	mA
h_{FE1}	DC Current Gain	$I_C=3\text{A}$, $V_{CE}=5\text{V}$	12			
h_{FE2}	DC Current Gain	$I_C=5\text{A}$, $V_{CE}=5\text{V}$	8			

Switching times

t_r	Rise Time				1.0	μs
t_{sig}	Storage Time	$I_{B1}=-I_{B2}=0.4\text{A}$ $R_L=50\Omega$, $V_{CE}=200\text{V}$ $P_W=20\mu\text{s}$, Duty Cycle=1%			2.5	μs
t_f	Fall Time				1.0	μs