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Silicon NPN Power Transistor

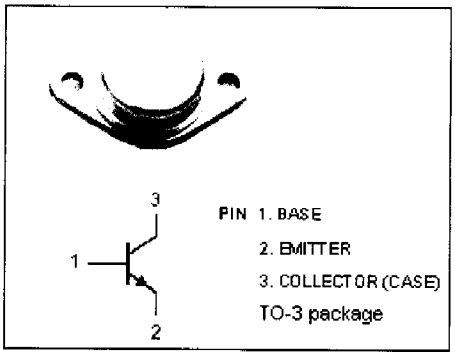
BUY58

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 160V(Min.)
- Low Collector Saturation Voltage-
  : $V_{CE(sat)}$= 1.3V@ I_C= 10A

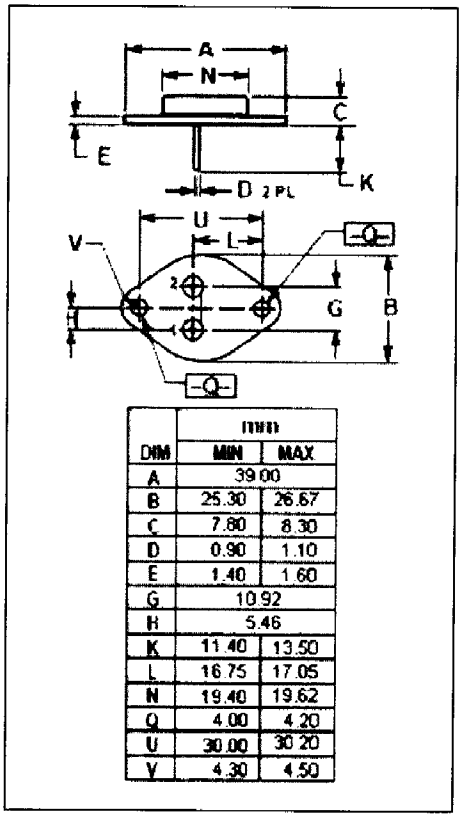
APPLICATIONS

- Designed for general switching applications at higher outputs.



ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	MAX	UNIT
V_{CBO}	Collector-Base Voltage	250	V
V_{CES}	Collector-Emitter Voltage	250	V
V_{CEO}	Collector-Emitter Voltage	160	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	15	A
I_{CM}	Collector Current-Peak	25	A
I_B	Base Current-Continuous	5	A
P_C	Collector Power Dissipation @T_C≤25℃	117	W
T_j	Junction Temperature	175	℃
T_{stg}	Storage Temperature Range	-65~175	℃



DIM	mm MIN	MAX
A	39.00	
B	25.30	26.67
C	7.80	8.30
D	0.90	1.10
E	1.40	1.60
G	10.92	
H	5.46	
K	11.40	13.50
L	16.75	17.05
N	19.40	19.62
Q	4.00	4.20
U	30.00	30.20
V	4.30	4.50

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance, Junction to Case	1.28	℃/W

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 100mA; I_B= 0	160			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 10A; I_B= 1.25A			1.3	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 10A; I_B= 1.25A			1.5	V
$V_{BE(on)-1}$	Base-Emitter On Voltage	I_C= 10A; V_{CE}= 1.5V			1.5	V
$V_{BE(on)-2}$	Base-Emitter On Voltage	I_C= 12A; V_{CE}= 1.5V			1.7	V
$V_{BE(on)-2}$	Base-Emitter On Voltage	I_C= 1A; V_{CE}= 1.5V			1.0	V
I_{CES}	Collector Cutoff Current	V_{CE}= 250V; V_{BE}= 0 V_{CE}= 250V; V_{BE}= 0; T_C= 125℃			1.0 10	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 6V; I_C= 0			1.0	mA
h_{FE-1}	DC Current Gain	I_C= 1A; V_{CE}= 1.5V	20			
h_{FE-2}	DC Current Gain	I_C= 10A; V_{CE}= 1.5V	12			
h_{FE-3}	DC Current Gain	I_C= 12A; V_{CE}= 1.5V	10			
f_T	Current-Gain—Bandwidth Product	I_C= 1A; V_{CE}= 10V		20		MHz
C_{OB}	Collector Output Capacitance	I_E= 0; V_{CB}= 10V, f= 1MHz		330		pF

Switching Times

t_{on}	Turn-On Time	I_C= 10A; I_{B1}= -I_{B2}= 1A; V_{CC}= 60V; t_p= 10 μ s			1.0	μ s
t_s	Storage Time				1.6	μ s
t_f	Fall Time				0.6	μ s