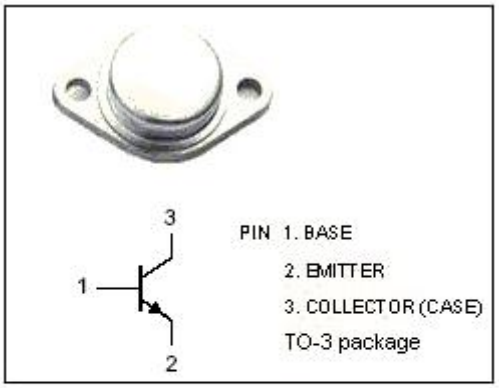
isc Silicon NPN Power Transistor — MJ12021

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = 450V(Min)
- Fast Turn-Off Time
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

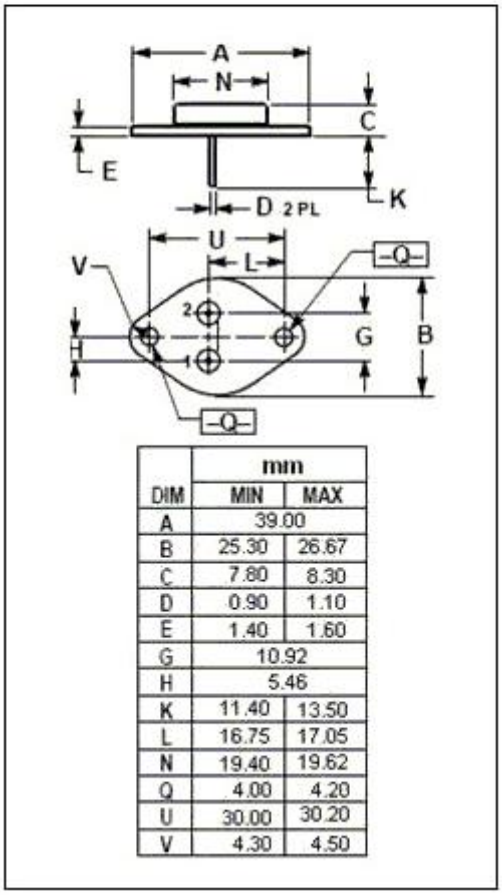


APPLICATIONS

- Designed for high resolution video systems, such as : high density graphic displays, data terminals, video scanners.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector- Base Voltage	850	V
$V_{CEO(SUS)}$	Collector-Emitter Voltage	450	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	8	A
I_{CM}	Collector Current-Peak	16	A
I_B	Base Current-Continuous	6	A
I_{BM}	Base Current-Peak	12	A
P_C	Collector Power Dissipation@T_C=25℃	150	W
T_J	Junction Temperature	200	℃
T_{stg}	Storage Temperature	-65~200	℃



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	1.17	℃/W

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C=30mA ; I_B=0	450			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 5A; I_B= 1A			1.2	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 5A; I_B= 1A			1.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}=850V;I_E=0 V_{CB}=850V;I_E=0;T_C=100℃			0.25 1.5	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 6V; I_C=0			1.0	mA
h_{FE}	DC Current Gain	I_C= 8A ; V_{CE}= 5V	5			
f_T	Current-Gain—Bandwidth Product	I_C= 1A; V_{CE}= 10V; f_{test}=1MHz	15			MHz
C_{OB}	Output Capacitance	I_E= 0; V_{CB}= 10V; f_{test}=1kHz		350		pF
Switching times;Inductive Load						
t_s	Storage Time	I_C= 5A , V_{CC}= 60V; I_{B1}= 1A; PW= 8 μ s; $V_{BE(off)}$= 4V Duty Cycle≤2.0%		550		ns
t_f	Fall Time			100		ns

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