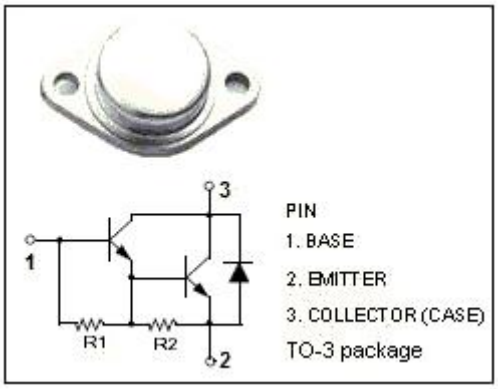
isc Silicon NPN Darlington Power Transistor MJ11020

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$= 200V (Min.)
- High DC Current Gain-
  : h_{FE}= 400(Min.)@I_C= 10A
- Low Collector Saturation Voltage-
  : $V_{CE\ (sat)}$= 1.0V(Max.)@ I_C= 5.0A
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

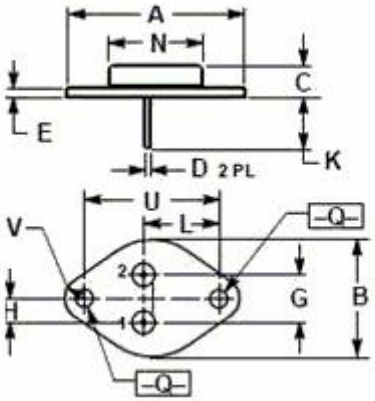


APPLICATIONS

- Designed for general purpose amplifiers, low frequency switching and motor control applications.

ABSOLUTE MAXIMUM RATINGS (T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	200	V
V_{CEO}	Collector-Emitter Voltage	200	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continunous	15	A
I_{CM}	Collector Current-Peak	30	A
I_B	Base Current-Continunous	0.5	A
P_C	Collector Power Dissipation @T_C=25℃	175	W
T_j	Junction Temperature	175	℃
T_{stg}	Storage Temperature Range	-65~200	℃



DIM	mm MIN	MAX
A	39.00	
B	25.30	26.67
C	7.80	8.50
D	0.90	1.10
E	1.40	1.60
G	10.92	
H	5.46	
K	11.30	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	0.86	℃/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= 0.1A; I_B= 0	200			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 10A; I_B= 0.1A			2.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 15A; I_B= 0.15A			3.4	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 15A; I_B= 0.15A			3.8	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= 10A, V_{CE}= 5V			2.8	V
I_{CBO}	Collector Cutoff Current	V_{CB}=200V;I_E=0 V_{CB}=200V;I_E=0;T_C=150℃			0.5 5.0	mA
I_{CEO}	Collector Cutoff Current	V_{CE}= 200V; I_B= 0			1.0	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0			2.0	mA
h_{FE-1}	DC Current Gain	I_C= 10A, V_{CE}= 5V	400		15000	
h_{FE-2}	DC Current Gain	I_C= 15A, V_{CE}= 5V	100			
C_{OB}	Output Capacitance	I_E= 0, V_{CB}= 10V; f_{test}= 0.1MHz			400	pF

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