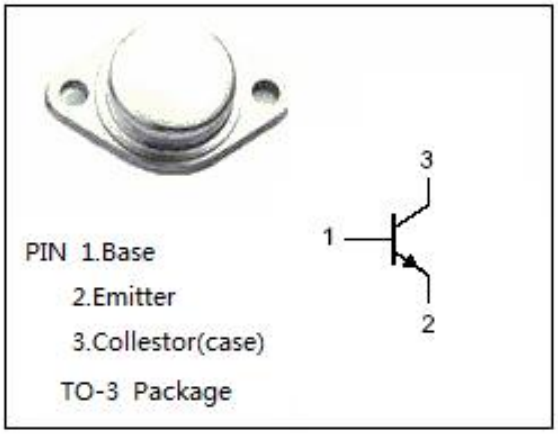
isc Silicon NPN Power Transistor 3DF20B

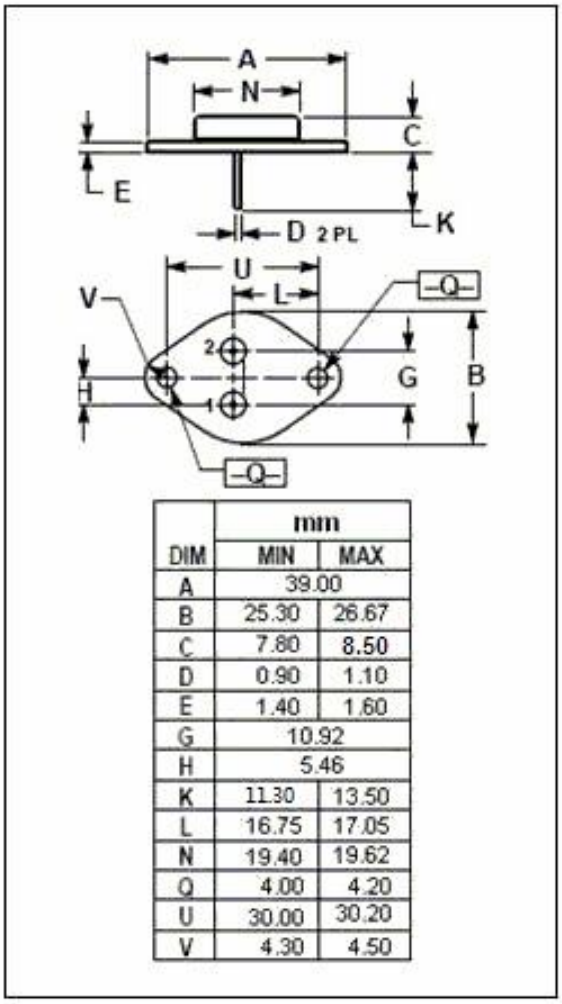
DESCRIPTION

- With TO-3 packaging
- Large collector current
- Low collector saturation voltage
- High power dissipation
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

- Designed for use in DC-DC converter
- Driver of solenoid or motor



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

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	150	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	20	A
P_D	Total Power Dissipation@T_C=75℃	200	W
T_J	Max.Junction Temperature	175	℃
T_{stg}	Storage Temperature	-55~175	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	0.5	℃/W

isc Silicon NPN Power Transistor 3DF20B

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
BV_{CBO}	Collector-Base Sustaining Voltage	I_C= 5mA; I_E= 0	150		V
BV_{CEO}	Collector-Emitter Sustaining Voltage	I_C= 5mA; I_B= 0	100		V
BV_{EBO}	Emitter-Base Sustaining Voltage	I_E= 7mA; I_C= 0	6		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 10A; I_B= 1A		1.8	V
I_{CEO}	Collector Cutoff Current	V_{CE}= 50V; I_B= 0		1	mA
h_{FE}	DC Current Gain	I_C= 10A; V_{CE}= 10V	15		