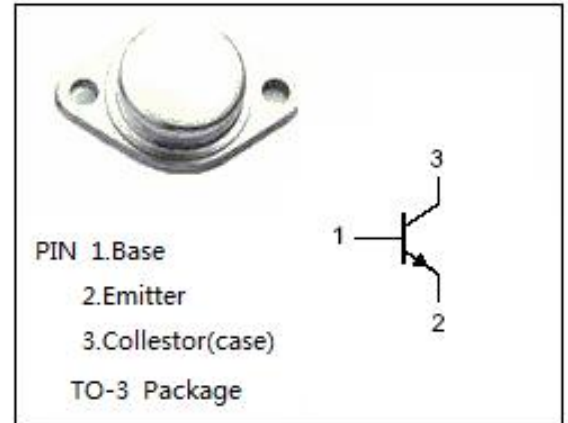


**isc Silicon NPN Power Transistor**
**3DD164F**
**DESCRIPTION**

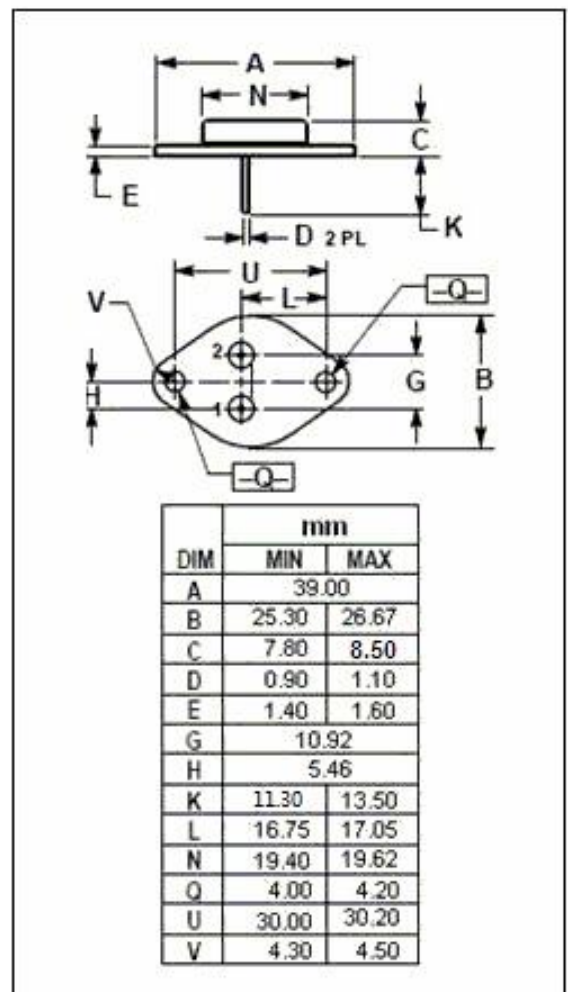
- With TO-3 packaging
- Large collector current
- Low collector saturation voltage
- High power dissipation
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

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


**ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	400	V
$V_{CEO}$	Collector-Emitter Voltage	300	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	10	A
$P_D$	Total Power Dissipation@ $T_c=75^\circ\text{C}$	100	W
$T_J$	Max.Junction Temperature	175	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~175	$^\circ\text{C}$


**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.5	$^\circ\text{C/W}$

**isc Silicon NPN Power Transistor****3DD164F****ELECTRICAL CHARACTERISTICS****T<sub>c</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
BV <sub>CBO</sub>	Collector-Base Sustaining Voltage	I <sub>c</sub> = 5mA; I <sub>E</sub> = 0	400		V
BV <sub>CEO</sub>	Collector-Emitter Sustaining Voltage	I <sub>c</sub> = 10mA; I <sub>B</sub> = 0	300		V
BV <sub>EBO</sub>	Emitter-Base Sustaining Voltage	I <sub>E</sub> = 5mA; I <sub>C</sub> =0	5		V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>c</sub> = 5A; I <sub>B</sub> = 0.5A		1.5	V
V <sub>BE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>c</sub> = 5A; I <sub>B</sub> = 0.5A		1.8	V
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> =100V; I <sub>E</sub> = 0		2	mA
h <sub>FE</sub>	DC Current Gain	I <sub>c</sub> = 5A; V <sub>CE</sub> = 5V	15	120	

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