

**isc Silicon NPN Power Transistor**

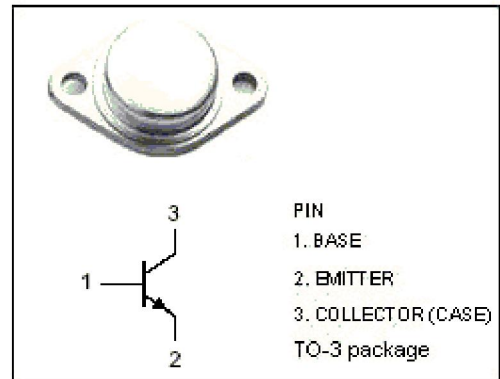
**3DD102A**

**DESCRIPTION**

- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 100V(\text{Min.})$
- DC Current Gain-  
:  $h_{FE} = 20(\text{Min.})@I_C = 2A$
- Collector-Emitter Saturation Voltage-  
:  $V_{CE(sat)} = 0.8V(\text{Max})@I_C = 2.5A$

**APPLICATIONS**

- Designed for power amplifier, DC-DC converter and regulated power supply applications.

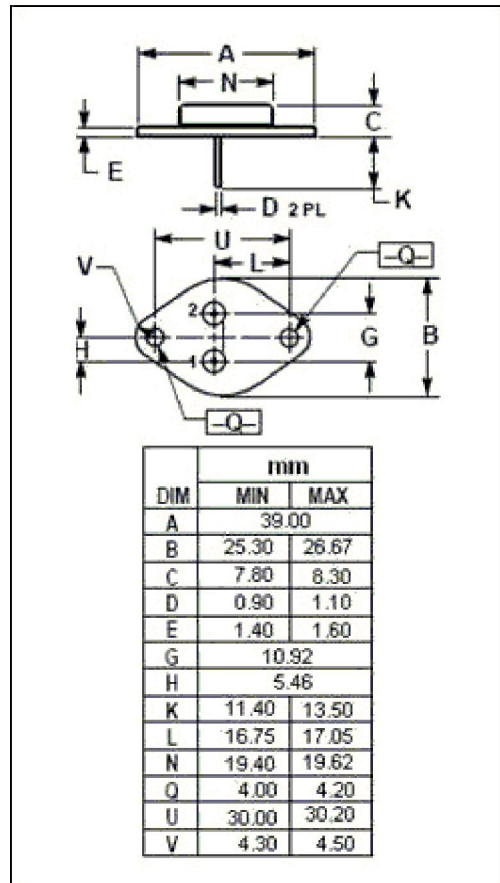


**ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	150	V
$V_{CEO}$	Collector-Emitter Voltage	100	V
$V_{EBO}$	Emitter-Base Voltage	4	V
$I_C$	Collector Current-Continuous	5	A
$P_C$	Collector Power Dissipation@ $T_C=75^\circ\text{C}$	50	W
$T_J$	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	2.0	$^\circ\text{C/W}$



**isc Silicon NPN Power Transistors****3DD102A****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=5\text{mA}; I_B=0$	100		V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=5\text{mA}; I_E=0$	150		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=5\text{mA}; I_C=0$	4		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=2.5\text{A}; I_B=0.25\text{A}$		0.8	V
$I_{CEO}$	Collector Cutoff Current	$V_{CE}=50\text{V}; I_B=0$		2.0	mA
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=50\text{V}; I_E=0$		1.0	mA
$h_{FE}$	DC Current Gain	$I_C=2\text{A}; V_{CE}=5\text{V}$	20		
$f_T$	Current Gain-Bandwidth Product	$I_C=0.5\text{A}; V_{CE}=12\text{V}$	1		MHz