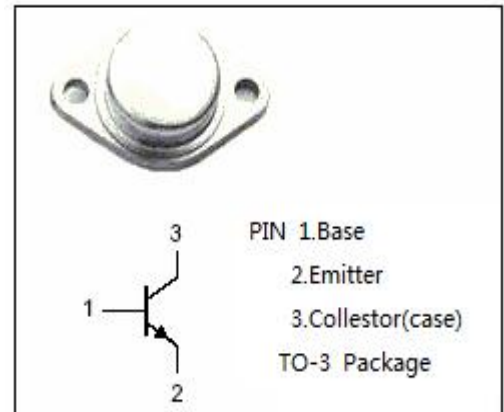


**isc Silicon NPN Power Transistor**
**BDY25**
**DESCRIPTION**

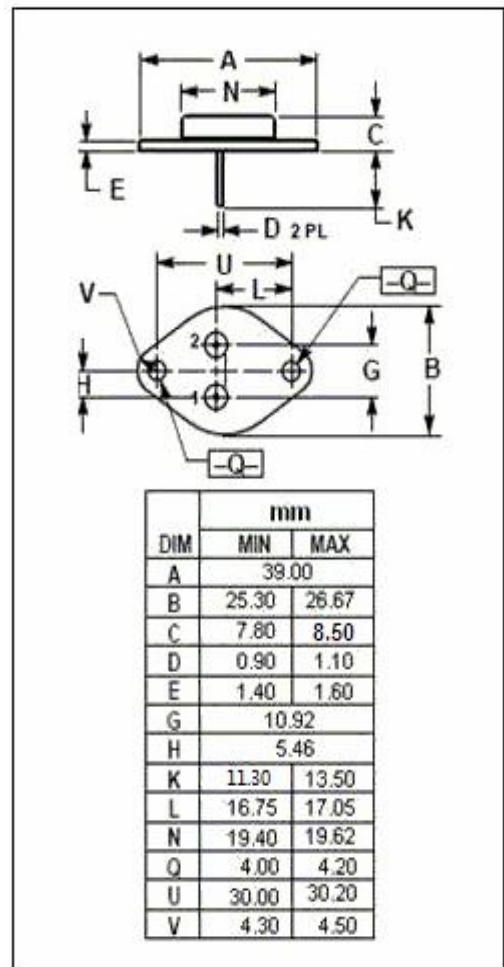
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 140V(\text{Min.})$
- Collector-Emitter Saturation Voltage-  
:  $V_{CE(sat)} = 0.6V(\text{Max}) @ I_C = 2A$
- High Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for LF signal power amplifier applications.


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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	200	V
$V_{CEO}$	Collector-Emitter Voltage	140	V
$V_{EBO}$	Emitter-Base Voltage	10	V
$I_C$	Collector Current-Continuous	6	A
$I_B$	Base Current	3	A
$P_C$	Collector Power Dissipation@ $T_C=25^\circ\text{C}$	87.5	W
$T_J$	Junction Temperature	200	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-65~200	$^\circ\text{C}$


**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	2.0	$^\circ\text{C}/\text{W}$

**isc Silicon NPN Power Transistors**
**BDY25**
**ELECTRICAL CHARACTERISTICS**

 T<sub>C</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 50mA; I <sub>B</sub> = 0	140			V
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = 1mA; I <sub>E</sub> = 0	200			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 2A; I <sub>B</sub> = 0.25A			0.6	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 2A; I <sub>B</sub> = 0.25A			1.2	V
I <sub>CES</sub>	Collector Cutoff Current	V <sub>CE</sub> = 180V; V <sub>BE</sub> = 0			1.0	mA
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 140V; I <sub>B</sub> = 0			1.0	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 10V; I <sub>C</sub> = 0			1.0	mA
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 2A; V <sub>CE</sub> = 4V	15		100	
f <sub>T</sub>	Current Gain-Bandwidth Product	I <sub>C</sub> = 0.5A; V <sub>CE</sub> = 15V; f=10MHz	10			MHz

**Switching Times**

t <sub>on</sub>	Turn-On Time	I <sub>C</sub> = 5A; I <sub>B</sub> = 1A			0.5	μ s
t <sub>off</sub>	Turn-Off Time	I <sub>C</sub> = 5A; I <sub>B1</sub> = 1A; I <sub>B2</sub> = -0.5A			2.0	μ s

**◆ h<sub>FE</sub> Classifications**

A	B	C
15-45	30-90	75-100

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