

**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

**APPLICATIONS**

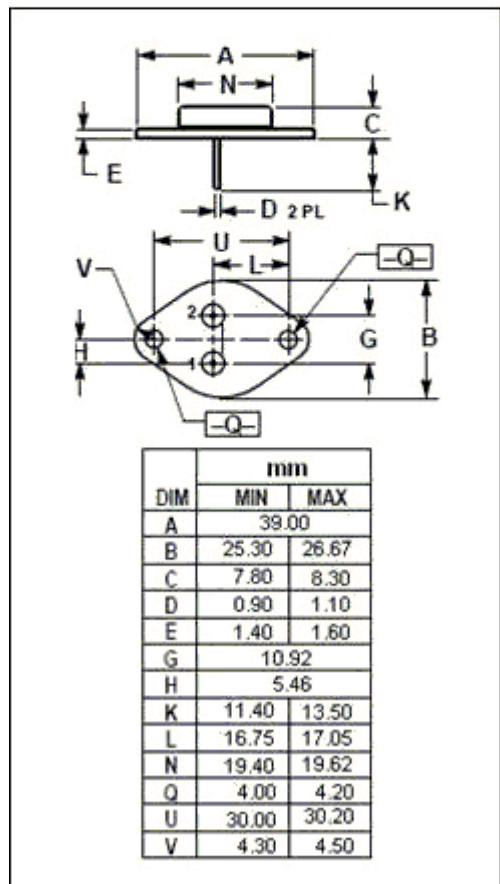
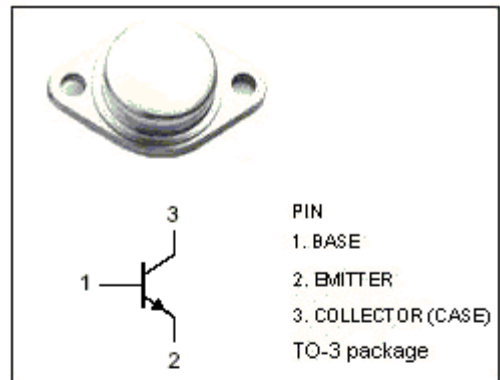
- Designed for LF signal powe amplifier applications.

**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

 $T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=50\text{mA}; I_B=0$	140			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=3\text{mA}; I_E=0$	200			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=2\text{A}; I_B=0.25\text{A}$			0.6	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=2\text{A}; I_B=0.25\text{A}$			1.2	V
$I_{CES}$	Collector Cutoff Current	$V_{CE}=180\text{V}; V_{BE}=0$			1.0	mA
$I_{CEO}$	Collector Cutoff Current	$V_{CE}=140\text{V}; I_B=0$			1.0	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=10\text{V}; I_C=0$			1.0	mA
$h_{FE}$	DC Current Gain	$I_C=2\text{A}; V_{CE}=4\text{V}$	15		100	
$f_T$	Current Gain-Bandwidth Product	$I_C=0.5\text{A}; V_{CE}=15\text{V}; f=10\text{MHz}$	10			MHz

## Switching Times

$t_{on}$	Turn-On Time	$I_C=5\text{A}; I_B=1\text{A}$			0.5	$\mu\text{s}$
$t_{off}$	Turn-Off Time	$I_C=5\text{A}; I_{B1}=1\text{A}; I_{B2}=-0.5\text{A}$			2.0	$\mu\text{s}$

◆  $h_{FE}$  Classifications

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