

isc Silicon NPN Power Transistor

BDY39

DESCRIPTION

- Excellent Safe Operating Area
- DC Current Gain-
: $h_{FE}=25-100@I_C = 4A$
- Collector-Emitter Saturation Voltage-
: $V_{CE(sat)}= 0.7V(Max)@ I_C = 4A$

APPLICATIONS

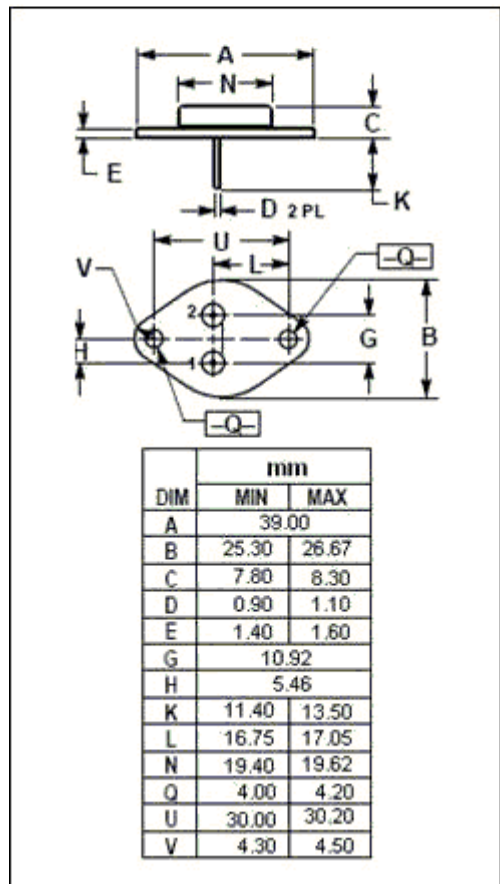
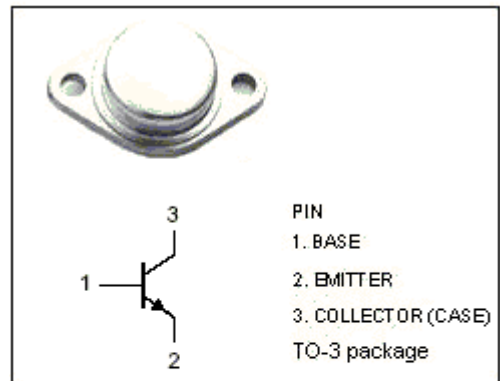
- Designed for use in high power AF output stages and in stabilized power supplies.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CER}	Collector-Emitter Voltage	70	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	15	A
I_{CM}	Collector Current-Peak	22.5	A
I_B	Base Current	7	A
P_C	Collector Power Dissipation@ $T_C=25^{\circ}C$	115	W
T_J	Junction Temperature	200	$^{\circ}C$
T_{stg}	Storage Temperature	-65~200	$^{\circ}C$

THERMAL CHARACTERISTICS

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



isc Silicon NPN Power Transistor**BDY39****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=200\text{mA}; I_B=0$	60		V
$V_{CEV(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=100\text{mA}; V_{BE}= -1.5\text{V}$	100		V
$V_{CER(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=200\text{mA}; R_{BE}=100\ \Omega$	70		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C= 4\text{A}; I_B= 0.4\text{A}$		0.7	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C= 4\text{A}; V_{CE}= 4\text{V}$		1.1	V
I_{CEO}	Collector Cutoff Current	$V_{CE}= 30\text{V}; I_B=0$		0.7	mA
I_{CEV}	Collector Cutoff Current	$V_{CE}= 100\text{V}; V_{BE}= -1.5\text{V}$ $V_{CE}= 60\text{V}; V_{BE}= -1.5\text{V}, T_C=150^{\circ}\text{C}$		1.0 5.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}= 7\text{V}; I_C= 0$		1.0	mA
h_{FE}	DC Current Gain	$I_C= 4\text{A}; V_{CE}= 4\text{V}$	25	100	
f_T	Current Gain-Bandwidth Product	$I_C= 0.3\text{A}; V_{CE}= 2\text{V}$	0.8		MHz