

isc Silicon NPN Power Transistor

BDY99

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CE(SUS)} = 250V(\text{Min})$
- Low Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 1.5V(\text{Max.}) @ I_C = 2.5A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

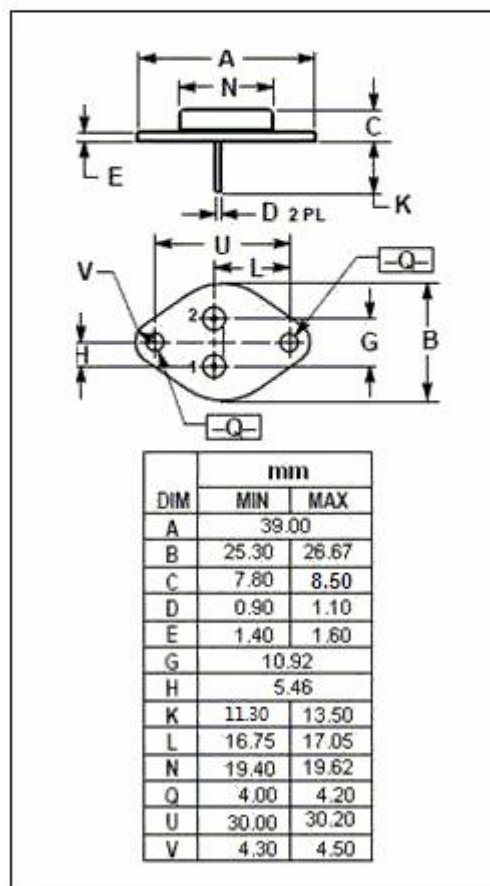
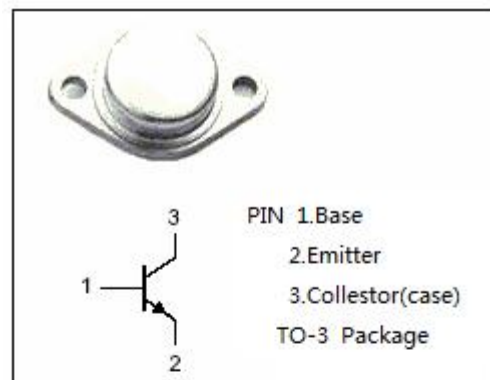
- Designed for use in switching regulators applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	750	V
V_{CEO}	Collector-Emitter Voltage	250	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	10	A
I_{CM}	Collector Current-Peak	15	A
P_C	Collector Power Dissipation @ $T_C=90^\circ\text{C}$	40	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	1.1	$^\circ\text{C/W}$



isc Silicon NPN Power Transistor**BDY99****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEQ(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 30mA; I _B = 0	250			V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 2.5A; I _B = 0.5A			1.5	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 4A; I _B = 1.25A			3.0	V
V _{BE(sat)-1}	Base-Emitter Saturation Voltage	I _C = 2.5A; I _B = 0.5A			1.4	V
V _{BE(sat)-2}	Base-Emitter Saturation Voltage	I _C = 4A; I _B = 1.25A			1.6	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 750V; I _E = 0			1.0	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 7V; I _C = 0			1.0	mA
h _{FE}	DC Current Gain	I _C = 2A; V _{CE} = 5V	15		60	
f _T	Current-Gain—Bandwidth Product	I _C = 0.5A; V _{CE} = 10V, f= 1.0MHz		10		MHz

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