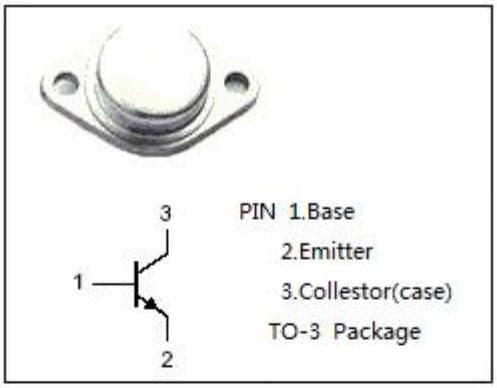
isc Silicon NPN Power Transistor BDY99

DESCRIPTION

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

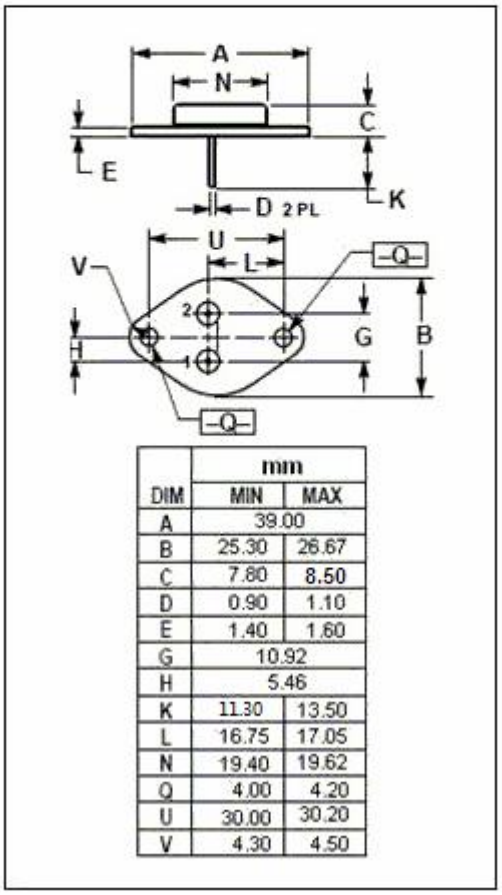


APPLICATIONS

- Designed for use in switching regulators applications.

BSOLUTE MAXIMUM RATINGS(T_a=25℃)

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℃	40	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃



DIM	mm MIN	MAX
A	39.00	
B	25.30	26.67
C	7.80	8.50
D	0.90	1.10
E	1.40	1.60
G	10.92	
H	5.46	
K	11.30	13.50
L	16.75	17.05
N	19.40	19.62
Q	4.00	4.20
U	30.00	30.20
V	4.30	4.50

THERMAL CHARACTERISTICS

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

isc Silicon NPN Power Transistor BDY99

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	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