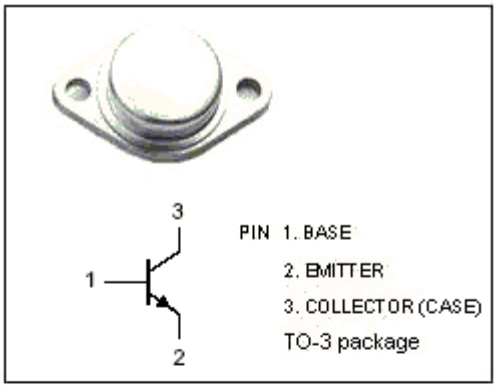
isc Silicon NPN Power Transistor BUV39

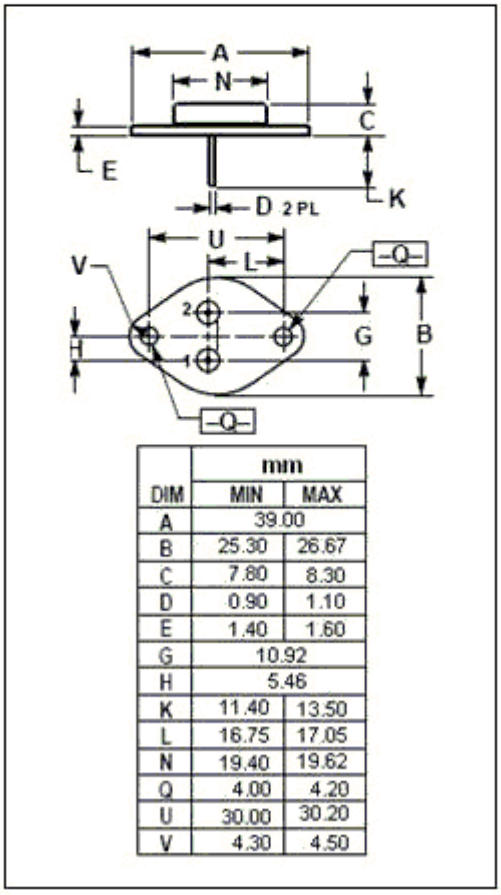
DESCRIPTION

- Low Collector Saturation Voltage-
  : $V_{CE(sat)}$= 0.8V (Max.) @I_C= 7.5A
- High Switching Speed

APPLICATIONS

- Designed for high current, high speed, high power applications.





DIM	mm MIN	MAX
A	39.00	
B	25.30	26.67
C	7.80	8.30
D	0.90	1.10
E	1.40	1.60
G	10.92	
H	5.46	
K	11.40	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

Absolute maximum ratings(Ta=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CEV}	Collector-Emitter Voltage V_{BE}=-1.5V	160	V
V_{CEO}	Collector-Emitter Voltage	90	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	25	A
I_{CM}	Collector Current-Peak	45	A
I_B	Base Current-Continuous	6	A
I_{BM}	Base Current- Peak	9	A
P_C	Collector Power Dissipation @T_C=25℃	120	W
T_j	Junction Temperature	200	℃
T_{stg}	Storage Temperature Range	-65~200	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	1.46	℃/W

isc Silicon NPN Power Transistor BUV39

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 0.2A; I_B= 0; L= 25mH	90			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E= 50mA; I_C= 0	7			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 7.5A; I_B= 0.375A			0.8	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 15A ;I_B= 1.5A			0.9	V
$V_{CE(sat)-3}$	Collector-Emitter Saturation Voltage	I_C= 20A ;I_B= 2.5A			1.2	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	I_C= 15A ;I_B= 1.5A			1.7	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	I_C= 20A ;I_B= 2.5A			1.9	V
I_{CER}	Collector Cutoff Current	V_{CE}= 160V;R_{BE}= 10Ω V_{CE}= 160V;R_{BE}= 10Ω;T_C=100℃			1.0 5.0	mA
I_{CEV}	Collector Cutoff Current	V_{CE}= 160V;V_{BE}= -1.5V V_{CE}= 160V;V_{BE}= -1.5V;T_C=100℃			1.0 5.0	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0			1.0	mA
Switching Times, Resistive Load						
t_r	Rise Time	I_C= 20A; I_{B1}= 2.5A; V_{CC}= 72V; R_{B2}= 1Ω; V_{BB}= -5V, t_p= 30μs			1.1	μs
t_s	Storage Time				1.0	μs
t_f	Fall Time				0.25	μs