

isc Silicon NPN Power Transistor

BUV50

DESCRIPTION

- High Current Capability
- Low Collector Saturation Voltage-
: $V_{CE(sat)} = 0.8V$ (Max.) @ $I_C = 10A$
- High Switching Speed

APPLICATIONS

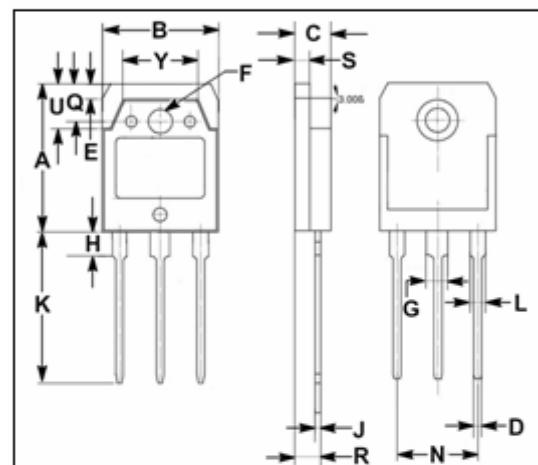
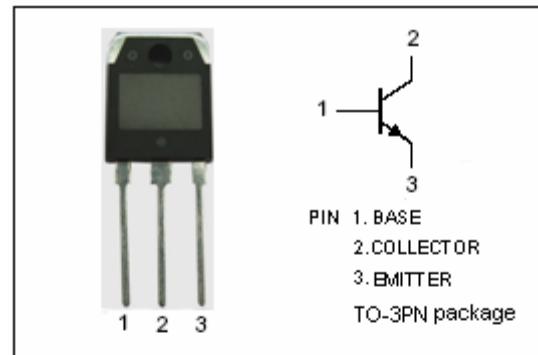
- Designed for high current, high speed, high power applications.

Absolute maximum ratings($T_a=25^\circ C$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CEV}	Collector-Emitter Voltage ($V_{BE} = -1.5V$)	250	V
V_{CEO}	Collector-Emitter Voltage	125	V
V_{EBO}	Emitter-Base Voltage	7	V
I_c	Collector Current-Continuous	25	A
I_{CM}	Collector Current-Peak	50	A
I_B	Base Current-Continuous	6	A
I_{BM}	Base Current-peak	12	A
P_c	Collector Power Dissipation @ $T_c=25^\circ C$	150	W
T_j	Junction Temperature	175	°C
T_{stg}	Storage Temperature Range	-65~175	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance,Junction to Case	1.0	°C/W



DIM	mm	
	MIN	MAX
A	19.90	20.10
B	15.50	15.70
C	4.70	4.90
D	0.90	1.10
E	1.90	2.10
F	3.40	3.60
G	2.90	3.10
H	3.20	3.40
J	0.595	0.605
K	20.50	20.70
L	1.90	2.10
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.005
U	5.90	6.10
Y	9.90	10.10

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ELECTRICAL CHARACTERISTICS

 $T_C=25^\circ C$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = 0.2A ; I_B = 0 ; L = 25mH$	125		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 50mA ; I_C = 0$	7		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = 10A ; I_B = 0.5A$ $I_C = 10A ; I_B = 0.5A ; T_C = 100^\circ C$		0.8 0.9	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = 20A ; I_B = 2A$ $I_C = 20A ; I_B = 2A ; T_C = 100^\circ C$		0.9 1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 20A ; I_B = 2A$ $I_C = 20A ; I_B = 2A ; T_C = 100^\circ C$		1.6 1.7	V
I_{CER}	Collector Cutoff Current	$V_{CE} = V_{CEV} ; R_{BE} = 10 \Omega$ $V_{CE} = V_{CEV} ; R_{BE} = 10 \Omega ; T_C = 100^\circ C$		1.0 5.0	mA
I_{CEV}	Collector Cutoff Current	$V_{CE} = V_{CEV} ; V_{BE} = -1.5V$ $V_{CE} = V_{CEV} ; V_{BE} = -1.5V ; T_C = 100^\circ C$		1.0 5.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 5V ; I_C = 0$		1.0	mA
h_{FE}	DC Current Gain	$I_C = 10A ; V_{CE} = 4V$	20		

Switching times Resistive Load

t_r	Rise Time	$I_C = 24A ; I_B = 3A ; V_{CC} = 100V$ $V_{BB} = -5V ; R_B = 0.83 \Omega ; t_p = 30 \mu s$	0.6	μs
t_s	Storage Time		1.2	μs
t_f	Fall Time		0.3	μs