

isc Silicon NPN Power Transistor

BUV48T

DESCRIPTION

- High Voltage Capability
- High Current Capability
- Fast Switching Speed

APPLICATIONS

Designed for high-voltage,high-speed, power switching in inductive circuits where fall time is critical. They are particularly suited for line-operated swtchmode applications such as:

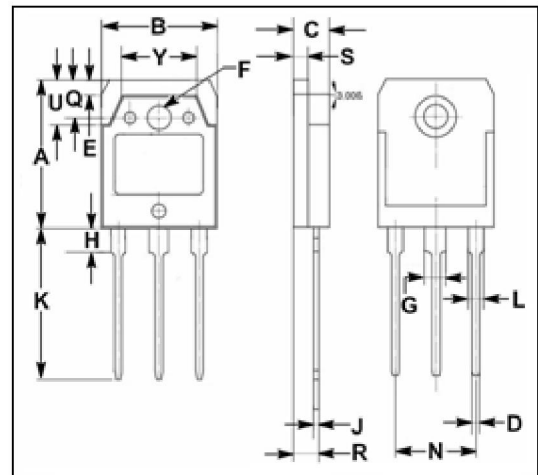
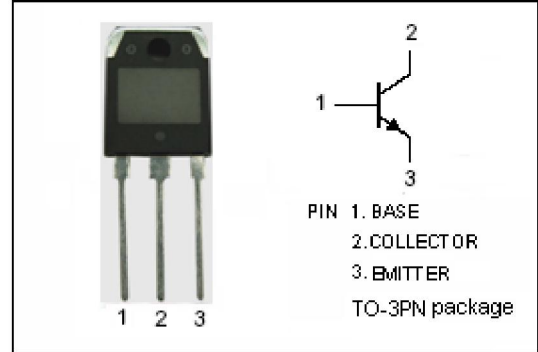
- Switching regulators
- Inverters
- Solenoid and relay drivers
- Motor controls

Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CES}	Collector-Emitter Voltage	850	V
V _{CEO}	Collector-Emitter Voltage	400	V
V _{EBO}	Emitter-Base Voltage	7	V
I _C	Collector Current-Continuous	15	A
I _{CM}	Collector Current-Peak	30	A
I _B	Base Current-Continuous	5	A
I _{BM}	Base Current-peak	20	A
P _C	Collector Power Dissipation @T _C =25°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

isc Silicon NPN Power Transistor**BUV48T****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=0.1\text{A}; I_B=0; L=125\text{mH}$	400			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=1\text{mA}; I_C=0$	7			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=2\text{A}$			0.9	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=2\text{A}$			1.6	V
I_{CES}	Collector Cutoff Current	$V_{CE}=850\text{V}; V_{BE}=-1.5\text{V}$ $V_{CE}=850\text{V}; V_{BE}=-1.5\text{V}; T_C=125^{\circ}\text{C}$			0.5 2.0	mA
h_{FE}	DC Current Gain	$I_C=15\text{A}; V_{CE}=5\text{V}$	6			
f_T	Current-Gain—Bandwidth Product	$I_C=1\text{A}; V_{CE}=10\text{V}$		5		MHz
C_{OB}	Collector Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{test}=1\text{MHz}$		250		pF

Switching times; Resistive Load

t_{on}	Turn-on Time	$I_C=10\text{A}; I_{B1}=-I_{B2}=2\text{A}; V_{CE}=150\text{V}$			0.5	μs
t_s	Storage Time				3.0	μs
t_f	Fall Time				0.5	μs