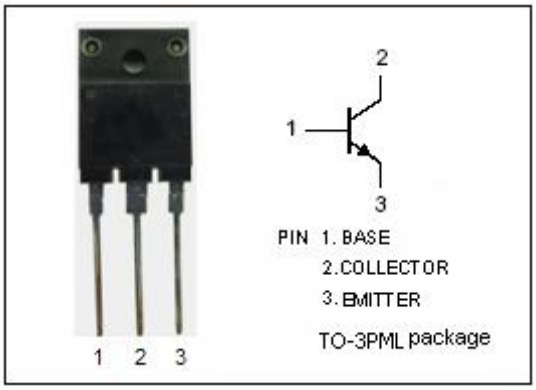
isc Silicon NPN Power Transistor — BUV48FI

DESCRIPTION

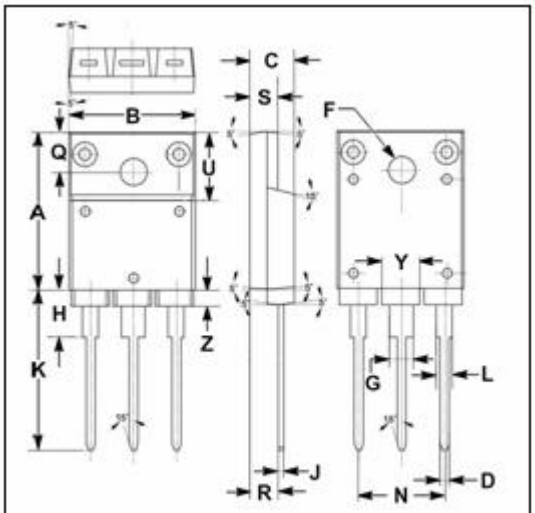
- High Voltage Capability
- High Current Capability
- Fast Switching Speed



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
- Deflection circuits



DIM	mm MIN	MAX
A	19.90	20.10
B	15.75	16.10
C	5.50	5.70
D	0.90	1.10
F	3.30	3.50
G	2.90	3.20
H	5.90	6.10
J	0.595	0.70
K	21.10	22.50
L	1.90	2.25
N	10.80	11.00
Q	4.90	5.10
R	3.75	3.95
S	3.20	3.60
U	9.90	10.10
Y	4.20	4.90
Z	1.90	2.10

Absolute maximum ratings(Ta=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CEX}	Collector-Emitter Voltage (V_{BE}= -1.5V)	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℃	55	W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	2.2	℃/W

isc Silicon NPN Power Transistor BUV48FI

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 50mA ; I_B= 0	400		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= 2A I_C= 10A; I_B= 2A;T_C= 100℃		1.5 2.0	V
$V_{CE\ (sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 15A ;I_B= 3A		5.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 10A; I_B= 2A I_C= 10A; I_B= 2A;T_C= 100℃		1.6 1.6	V
I_{CER}	Collector Cutoff Current	V_{CE}=rated V_{CER}; R_{BE}= 10Ω V_{CE}=rated V_{CER}; R_{BE}= 10Ω;T_C=125℃		0.5 3.0	mA
I_{CEX}	Collector Cutoff Current	V_{CE}=rated V_{CES}; $V_{BE(off)}$= 1.5V V_{CE}=rated V_{CES}; $V_{BE(off)}$= 1.5V;T_C=125℃		0.2 2.0	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0		0.1	mA
h_{FE}	DC Current Gain	I_C= 10A ; V_{CE}= 5V	8		
C_{OB}	Output Capacitance	I_E= 0; V_{CB}= 10V, f_{test}= 1MHz		350	pF
Switching times Resistive Load					
t_{on}	Turn-on Time	I_C= 10A ;I_{B1}=-I_{B2}= 2A; V_{CC}= 300V $V_{BE(off)}$= 5V,Duty Cycle≤2%		0.9	μs
t_s	Storage Time			2.0	μs
t_f	Fall Time			0.4	μs