

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 switchmode applications such as:

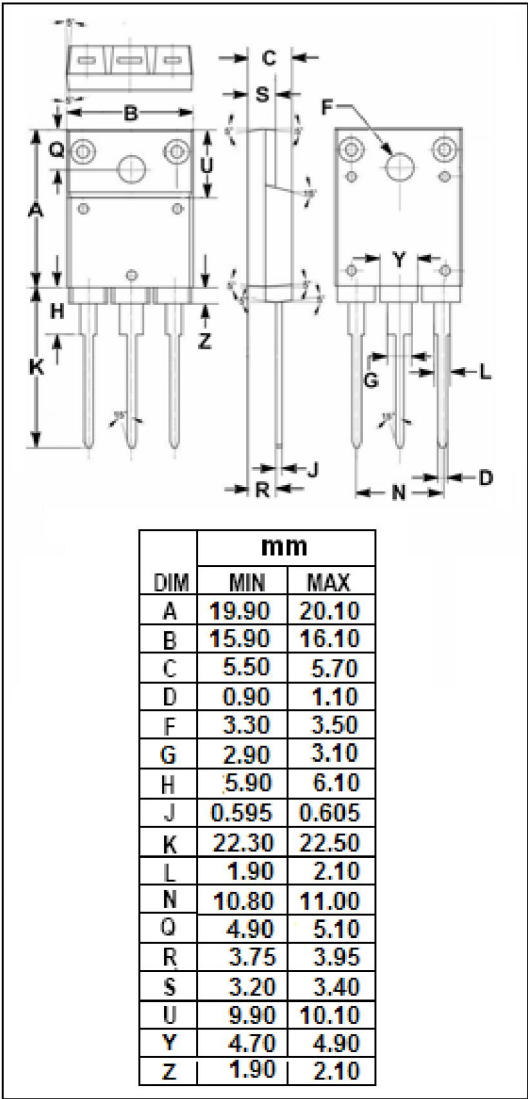
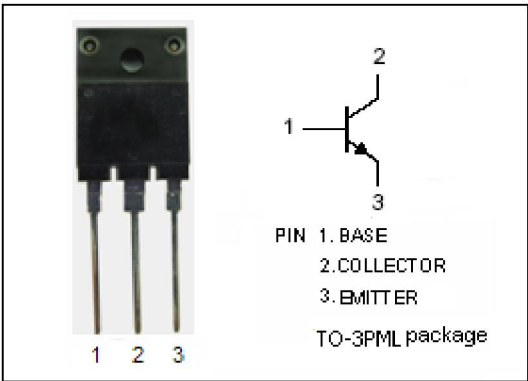
- Switching regulators
- Inverters
- Solenoid and relay drivers
- Motor controls
- Deflection circuits

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	175	℃
T _{stg}	Storage Temperature Range	-65~175	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal Resistance,Junction to Case	2.2	℃/W



isc Silicon NPN Power Transistor**BUV48FI****ELECTRICAL CHARACTERISTICS****T_C=25°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	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°C		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°C		1.6 1.6	V
I _{CER}	Collector Cutoff Current	V _{CE} =rated V _{CER} ; R _{BE} = 10 Ω V _{CE} =rated V _{CER} ; R _{BE} = 10 Ω; T _C =125°C		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°C		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	μ s
t _s	Storage Time			2.0	μ s
t _f	Fall Time			0.4	μ s