

isc Silicon NPN Power Transistor**BUV47AFI****DESCRIPTION**

- Collector-Emitter Sustaining Voltage-
: $V_{CE(SUS)} = 450V(\text{Min.})$
- Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 1.5V(\text{Max.}) @ I_C = 5A$
- High Speed Switching
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

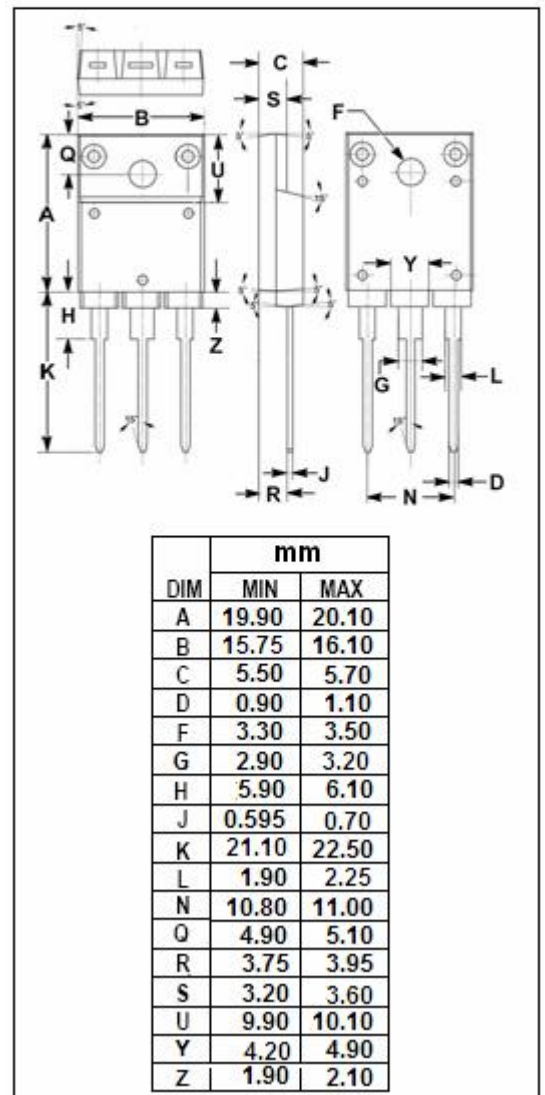
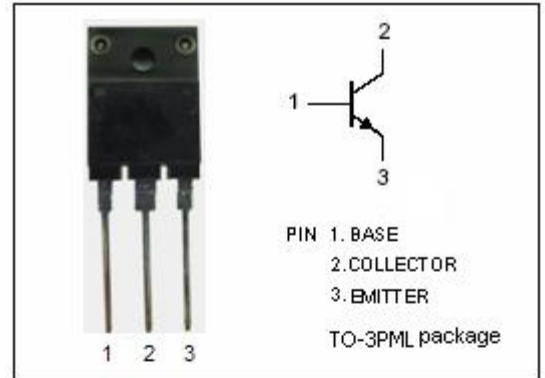
- Designed for 220V switch mode power supply, DC and AC motor control applications.

ABSOLUTE MAXIMUM RATINGS($T_a = 25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CES}	Collector-Emitter Voltage $V_{BE} = 0$	1000	V
V_{CEO}	Collector-Emitter Voltage	450	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	9	A
I_{CM}	Collector Current-Peak	15	A
I_B	Base Current-Continuous	8	A
I_{BM}	Base Current-Peak	10	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	55	W
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	2.27	$^\circ\text{C/W}$



isc Silicon NPN Power Transistor**BUV47AFI****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEQ(SUS)}	Collector-Emitter Sustaining Voltage	I _C =50mA ; I _B = 0	450			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 = 5A; I _B = 1A			1.5	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 8A; I _B = 2.5A			3.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 5A; I _B = 1A			1.6	V
I _{CEO}	Collector Cutoff Current	V _{CE} = 450V; I _B = 0			1.0	mA
I _{CES}	Collector Cutoff Current	V _{CE} =RatedV _{CES} ; V _{BE} = 0 V _{CE} =RatedV _{CES} ; V _{BE} = 0; T _C =125°C			0.4 3.0	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			1.0	mA

Switching Times, Resistive Load

t _{on}	Turn-on Time	I _C = 5A; I _{B1} = -I _{B2} = 1A; V _{CC} = 150V			0.7	μ s
t _s	Storage Time				3.0	μ s
t _f	Fall Time				0.8	μ s

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