

isc Silicon NPN Power Transistor

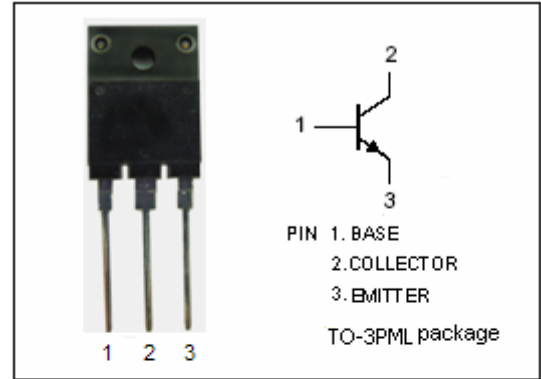
BUV48CFI

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 700V$ (Min)
- High Current Capability
- Fast Switching Speed

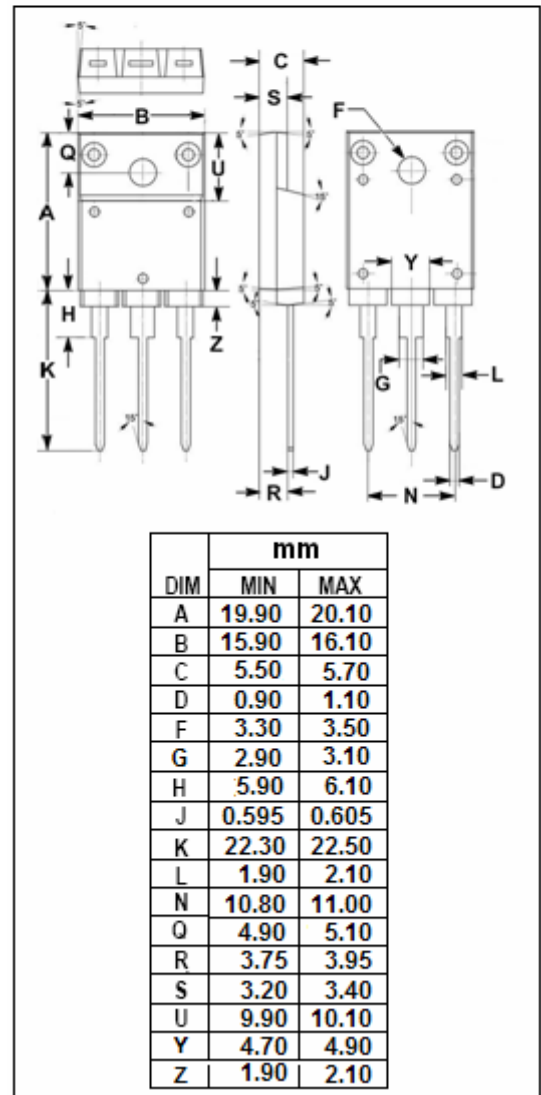
APPLICATIONS

- Designed for switching and industrial applications from single and three-phase mains.



Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CER}	Collector-Emitter Voltage ($R_{BE} = 10\Omega$)	1200	V
V_{CES}	Collector-Emitter Voltage ($V_{BE} = 0$)	1200	V
V_{CEO}	Collector-Emitter Voltage	700	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	15	A
I_{CM}	Collector Current-Peak $t_p < 5ms$	30	A
I_B	Base Current-Continuous	4	A
I_{BM}	Base Current-peak $t_p < 5ms$	20	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ C$	65	W
T_j	Junction Temperature	150	°C
T_{stg}	Storage Temperature Range	-65~150	°C



THERMAL CHARACTERISTICS

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

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ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=100\text{mA}; I_B=0$	700		V
$V_{CER(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=0.5\text{A}; L=2\text{mH}; V_{clamp}=1200\text{V}$ $R_{BE}=10\Omega$	1200		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=6\text{A}; I_B=1.5\text{A}$		1.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=4\text{A}$		3.0	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	$I_C=6\text{A}; I_B=1.5\text{A}$		1.5	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=4\text{A}$		2.0	V
I_{CER}	Collector Cutoff Current	$V_{CE}=1200\text{V}; R_{BE}=10\Omega$ $V_{CE}=1200\text{V}; R_{BE}=10\Omega; T_C=125^{\circ}\text{C}$		0.5 4.0	mA
I_{CES}	Collector Cutoff Current	$V_{CE}=1200\text{V}; V_{BE}=0$ $V_{CE}=1200\text{V}; V_{BE}=0; T_C=125^{\circ}\text{C}$		0.5 3.0	mA
I_{CEO}	Collector Cutoff Current	$V_{CE}=700\text{V}; I_B=0$		1.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=6\text{V}; I_C=0$		1.0	mA

Switching times Resistive Load

t_{on}	Turn-on Time	$I_C=6\text{A}; I_{B1}=-I_{B2}=1.5\text{A}; V_{CC}=250\text{V}$		1.0	μs
t_s	Storage Time			3.0	μs
t_f	Fall Time			0.7	μs