

isc Silicon NPN Power Transistor
BUW12F
DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 400V(\text{Min.})$
- Low Collector Saturation Voltage-
: $V_{CE(sat)} = 1.5V(\text{Max.})@I_C = 6A$
- High Speed Switching
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

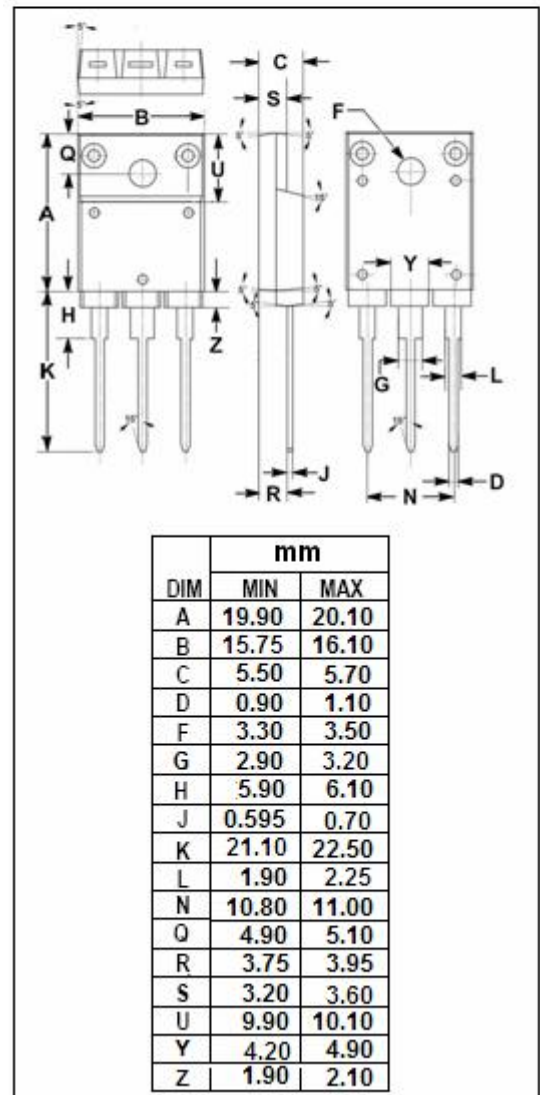
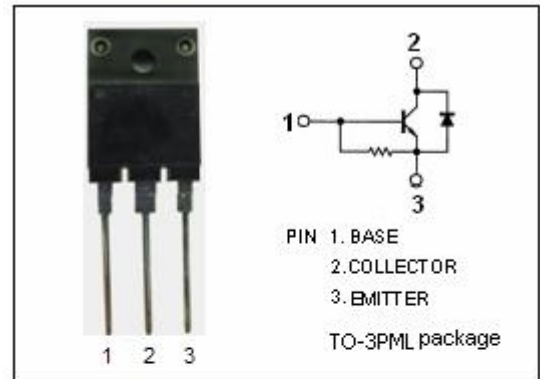
- Designed for high voltage, fast switching industrial applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	850	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current-Continuous	8	A
I_{CM}	Collector Current-Peak	20	A
I_B	Base Current	4	A
I_{BM}	Base Current-Peak	6	A
P_C	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	34	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	3.7	$^\circ\text{C}/\text{W}$



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ELECTRICAL CHARACTERISTICS

 T_c=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 50mA; I _B = 0	400			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 6A; I _B = 1.2A			1.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 6A; I _B = 1.2A			1.5	V
I _{CES}	Collector Cutoff Current	V _{CE} =V _{CES} ; V _{BE} = 0 V _{CE} =V _{CES} ; V _{BE} = 0; T _C =125°C			1.0 3.0	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 9V; I _C = 0			10	mA
h _{FE-1}	DC Current Gain	I _C = 10mA; V _{CE} = 5V	10		35	
h _{FE-2}	DC Current Gain	I _C = 1A; V _{CE} = 5V	10		35	

Switching Times; Resistive Load

t _{on}	Turn-on Time	I _C = 6A; I _{B1} = -I _{B2} = 1.2A			1.0	μs
t _s	Storage Time				4.0	μs
t _f	Fall Time				0.8	μs

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