

isc Silicon NPN Power Transistor

BUP22BF/CF

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 400V(\text{Min})$ -BUP22BF
= $450V(\text{Min})$ -BUP22CF
- High Switching Speed

APPLICATIONS

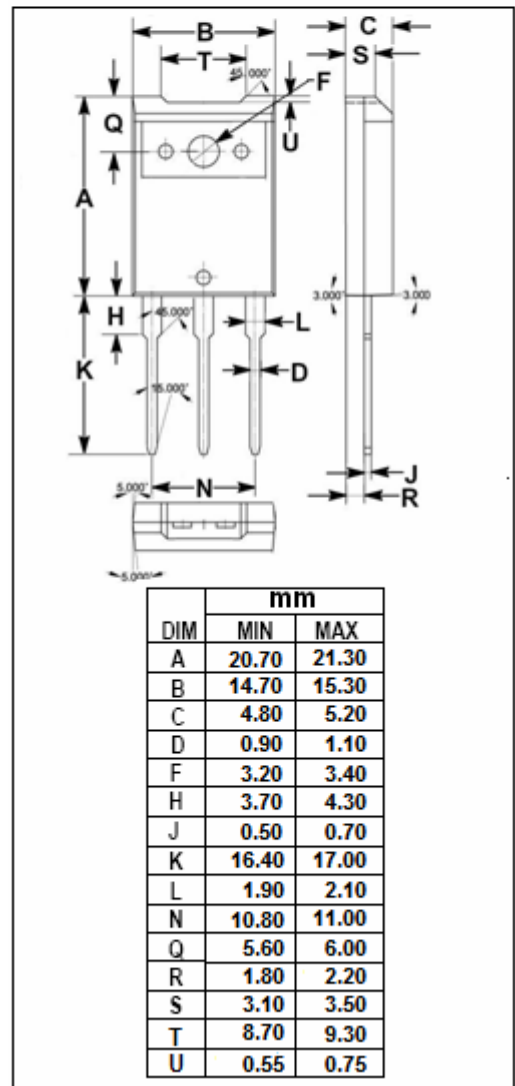
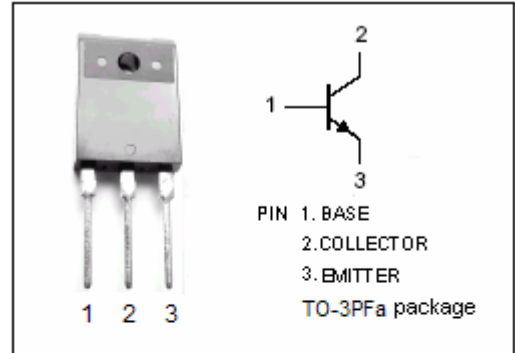
- Designed for use in converters, inverters, switching-regulators, motor control systems etc.

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

SYMBOL	PARAMETER	VALUE	UNIT	
V_{CES}	Collector- Emitter Voltage $V_{BE}=0$	BUP22BF	750	V
		BUP22CF	850	
V_{CEO}	Collector-Emitter Voltage	BUP22BF	400	V
		BUP22CF	450	
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-Continuous	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	$^\circ\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	35	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	BUP22BF	400			V
		BUP22CF				
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	BUP22BF			1.5	V
		BUP22CF			1.5	
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	BUP22BF			1.5	V
		BUP22CF			1.5	
I_{CES}	Collector Cutoff Current	$V_{CE} = V_{CESmax}; V_{BE} = 0$ $V_{CE} = V_{CESmax}; V_{BE} = 0; T_J = 125^\circ\text{C}$			1 2	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 9V; I_C = 0$			10	mA
h_{FE}	DC Current Gain	$I_C = 1A; V_{CE} = 5V$		25		

Switching Times; Resistive Load

t_{on}	Turn-On Time	For BUP22BF $I_C = 6A; I_{B1} = -I_{B2} = 0.8A$ For BUP22CF $I_C = 6A; I_{B1} = -I_{B2} = 1A$			1.0	μs
t_s	Storage Time				4.5	μs
t_f	Fall Time				0.7	μs