

isc Silicon NPN Power Transistors

BUP23BF/CF

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 400V$ (Min)-BUP23BF
450V (Min)-BUP23CF
- High Switching Speed

APPLICATIONS

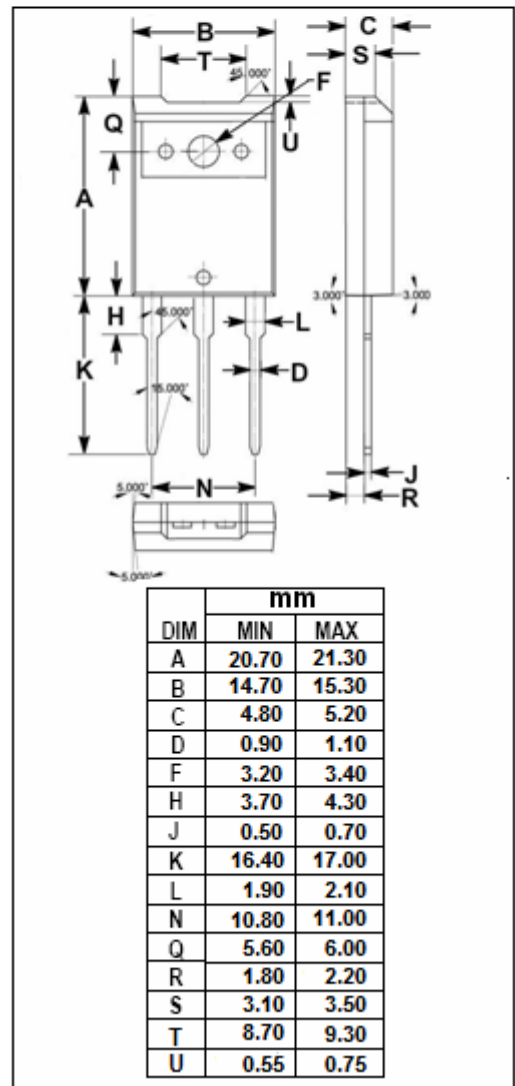
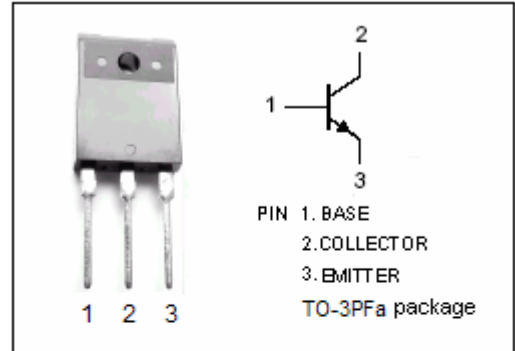
- Designed for use in converters, inverters, switching regulators, motor control systems etc.

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

SYMBOL	PARAMETER	VALUE	UNIT	
V_{CES}	Collector- Emitter Voltage($V_{BE} = 0$)	BUP23BF	750	V
		BUP23CF	850	
V_{CEO}	Collector-Emitter Voltage	BUP23BF	400	V
		BUP23CF	450	
V_{EBO}	Emitter-Base Voltage	9	V	
I_C	Collector Current- Continuous	15	A	
I_{CM}	Collector Current-Peak	30	A	
I_B	Base Current- Continuous	6	A	
I_{BM}	Base Current-Peak	9	A	
P_C	Collector Power Dissipation @ $T_C=25^\circ C$	37	W	
T_J	Junction Temperature	150	$^\circ C$	
T_{stg}	Storage Temperature Range	-65~150	$^\circ C$	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	3.4	$^\circ C/W$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	35	$^\circ C/W$



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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	BUP23BF	$I_C=100\text{mA}; I_B=0; L=25\text{mH}$			V
		BUP23CF				
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	BUP23BF	$I_C=10\text{A}; I_B=1.33\text{A}$			V
		BUP23CF				
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	BUP23BF	$I_C=10\text{A}; I_B=1.33\text{A}$			V
		BUP23CF				
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 3	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=9\text{V}; I_C=0$			10	mA
h_{FE}	DC Current Gain	$I_C=1.5\text{A}; V_{CE}=5\text{V}$		25		

Switching Times, Resistive Load

t_{on}	Turn-On Time	For BUP23BF $I_C=10\text{A}; I_{B1}=-I_{B2}=1.33\text{A}$ For BUP23CF $I_C=10\text{A}; I_{B1}=-I_{B2}=1.67\text{A}$			1.0	μs
t_{stg}	Storage Time				4.5	μs
t_f	Fall Time				0.7	μs