

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

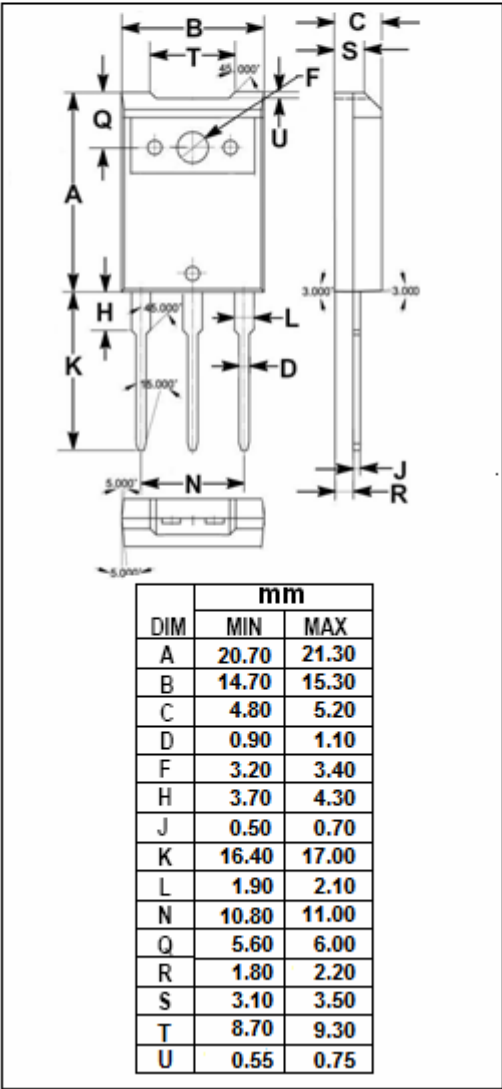
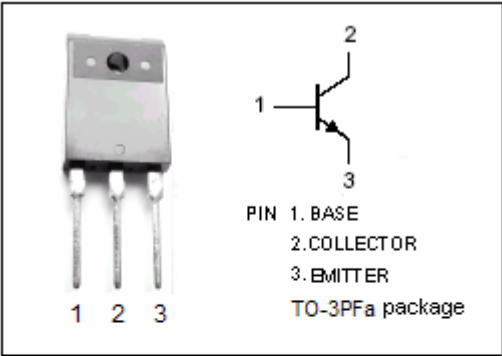
- Designed for use in converters, inverters, switching regulators, motor control systems etc.

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	$I_C=100\text{mA}$; $I_B=0$; $L=25\text{mH}$	400			V
		BUP23CF		450			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	BUP23BF	$I_C=10\text{A}$; $I_B=1.33\text{A}$			1.5	V
		BUP23CF	$I_C=10\text{A}$; $I_B=1.67\text{A}$			1.5	
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	BUP23BF	$I_C=10\text{A}$; $I_B=1.33\text{A}$			1.5	V
		BUP23CF	$I_C=10\text{A}$; $I_B=1.67\text{A}$			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 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