

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

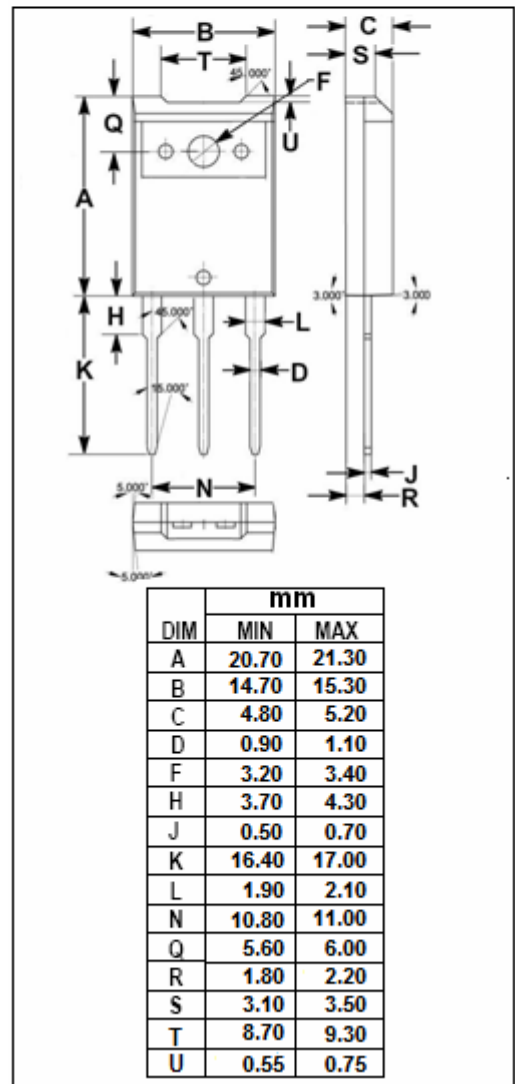
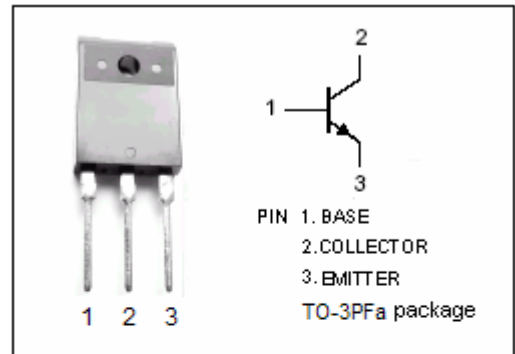
- Designed for use in converters, inverters, switching regulators, motor control systems etc.

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	$^\circ C/W$



## isc Silicon NPN Power Transistors

## BUP23BF/CF

## 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	$\mu\text{s}$
$t_{stg}$	Storage Time				4.5	$\mu\text{s}$
$t_f$	Fall Time				0.7	$\mu\text{s}$