

isc Silicon NPN Power Transistors

BUT22BF/CF

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 400V(\text{Min})$ - BUT22BF
450V(Min)- BUT22CF
- High Switching Speed

APPLICATIONS

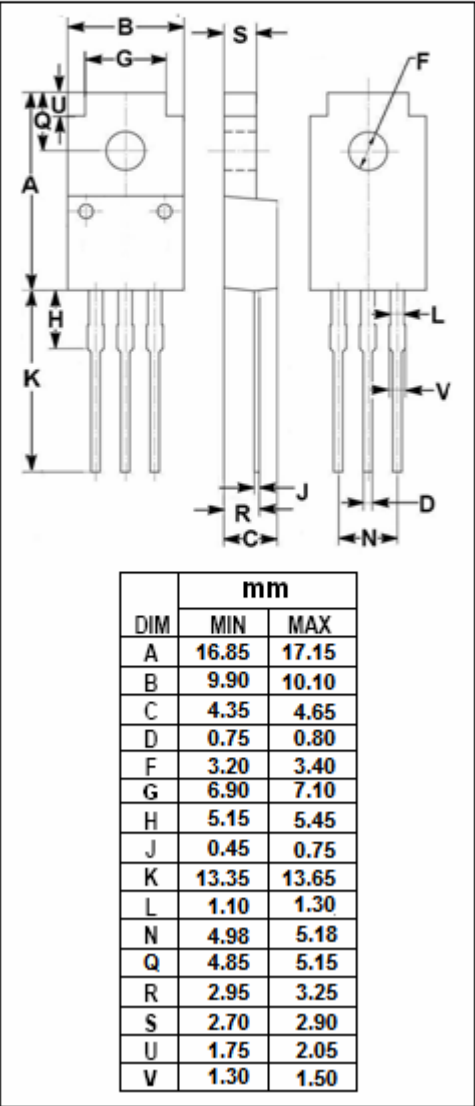
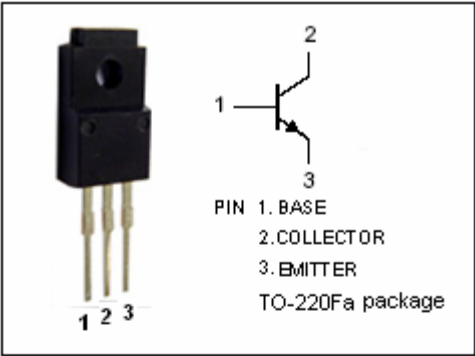
- Designed for use in converters, inverters, switching regulators, motor control systems etc.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CES}	Collector-Emitter Voltage $V_{BE}=0$	BUT22BF 750	V
		BUT22CF 850	
V_{CEO}	Collector-Emitter Voltage	BUT22BF 400	V
		BUT22CF 450	
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current-Continuous	8	A
I_{CM}	Collector Current-Peak $t_p < 20\text{ms}$	20	A
I_B	Base Current-Continuous	4	A
I_{BM}	Base Current-Peak $t_p < 20\text{ms}$	6	A
P_C	Collector Power Dissipation @ $T_C=25^{\circ}\text{C}$	23	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	5.5	$^{\circ}\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	55	$^{\circ}\text{C/W}$



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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	BUT22BF	$I_C = 0.1\text{A}; I_B = 0; L = 25\text{mH}$	400			V
		BUT22CF		450			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	BUT22BF	$I_C = 6\text{A}; I_B = 0.8\text{A}$			1.5	V
		BUT22CF	$I_C = 6\text{A}; I_B = 1.0\text{A}$			1.5	
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	BUT22BF	$I_C = 6\text{A}; I_B = 0.8\text{A}$			1.5	V
		BUT22CF	$I_C = 6\text{A}; I_B = 1.0\text{A}$			1.5	
I_{CES}	Collector Cutoff Current		$V_{CE} = V_{CESmax}; V_{BE} = 0$			1.0	mA
I_{EBO}	Emitter Cutoff Current		$V_{EB} = 9\text{V}; I_C = 0$			10	mA
h_{FE}	DC Current Gain		$I_C = 1\text{A}; V_{CE} = 5\text{V}$		25		

Switching Times; Resistive Load

t_{on}	Turn-On Time	For BUT22BF $I_C = 6\text{A}; I_{B1} = -I_{B2} = 0.8\text{A}$ For BUT22CF $I_C = 6\text{A}; I_{B1} = -I_{B2} = 1.0\text{A}$			1.0	μs
t_{stg}	Storage Time				4.5	μs
t_f	Fall Time				0.7	μs