

**isc Silicon NPN Power Transistor**

**BUP22B/C**

**DESCRIPTION**

- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 400V(\text{Min})$ -BUP22B  
=  $450V(\text{Min})$ -BUP22C
- High Switching Speed

**APPLICATIONS**

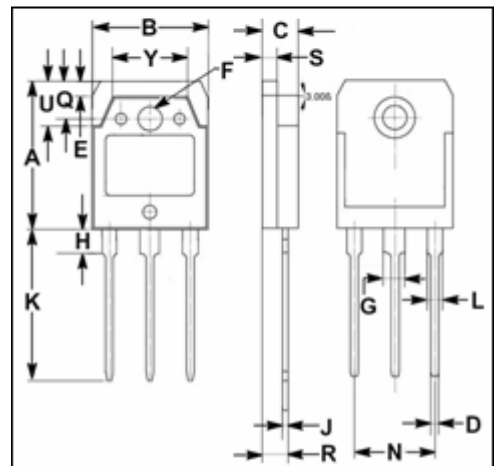
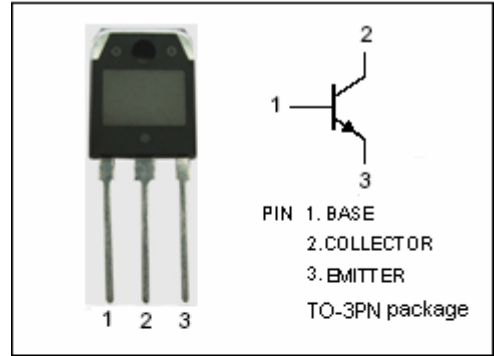
- Designed for use in converters, inverters, switching-regulators, motor control systems etc.

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

SYMBOL	PARAMETER	VALUE	UNIT	
$V_{CES}$	Collector- Emitter Voltage $V_{BE}=0$	BUP22B	750	V
		BUP22C	850	
$V_{CEO}$	Collector-Emitter Voltage	BUP22B	400	V
		BUP22C	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 @ $T_C=25^\circ\text{C}$	125	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	1.0	$^\circ\text{C/W}$



DIM	mm	
	MIN	MAX
A	19.90	20.10
B	15.50	15.70
C	4.70	4.90
D	0.90	1.10
E	1.90	2.10
F	3.40	3.60
G	2.90	3.10
H	3.20	3.40
J	0.595	0.605
K	20.50	20.70
L	1.90	2.10
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.005
U	5.90	6.10
Y	9.90	10.10

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## BUP22B/C

## 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	BUP22B	400			V
		BUP22C				
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	BUP22B			1.5	V
		BUP22C			1.5	
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	BUP22B			1.5	V
		BUP22C			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 BUP22B $I_C = 6A; I_{B1} = -I_{B2} = 0.8A$ For BUP22C $I_C = 6A; I_{B1} = -I_{B2} = 1A$		0.5		$\mu\text{s}$
$t_s$	Storage Time			3.0		$\mu\text{s}$
$t_f$	Fall Time			0.3		$\mu\text{s}$