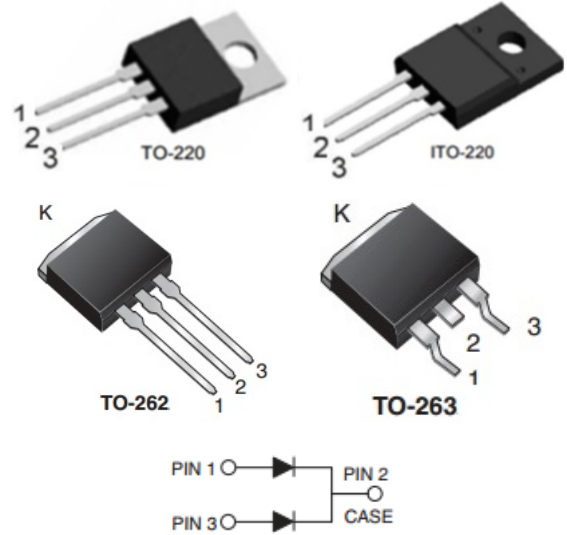


Features

- Ultra Low Forward Voltage Drop
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability

Mechanical Data

- Case: TO-220AB, ITO-220AB, TO-262AB, TO-263AB
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208



Ordering Information

Part No.	Package	Packing
SBT20V120CT	TO-220AB	50pcs / Tube
SBT20V120FCT	ITO-220AB	50pcs / Tube
SBT20V120CK	TO-262AB	50pcs / Tube
SBT20V120CG	TO-263AB	50pcs / Tube
SBT20V120CG	TO-263AB	800pcs / Reel

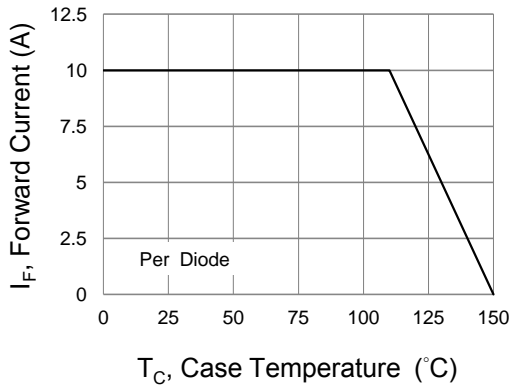
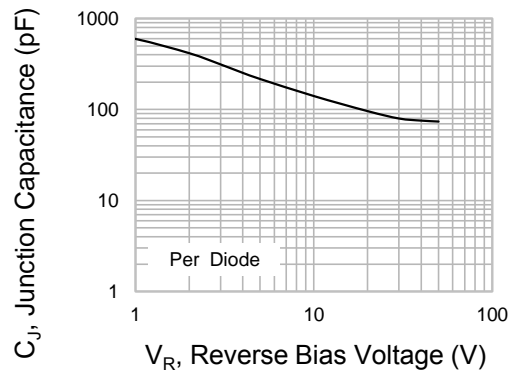
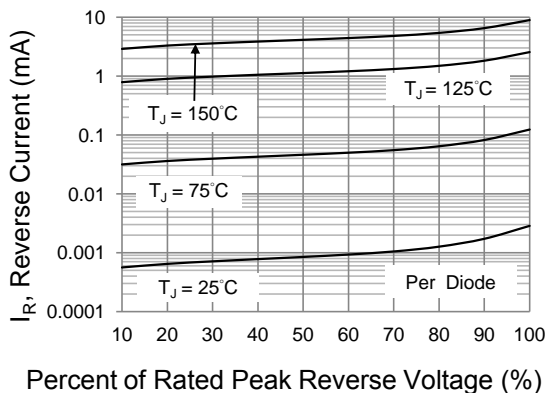
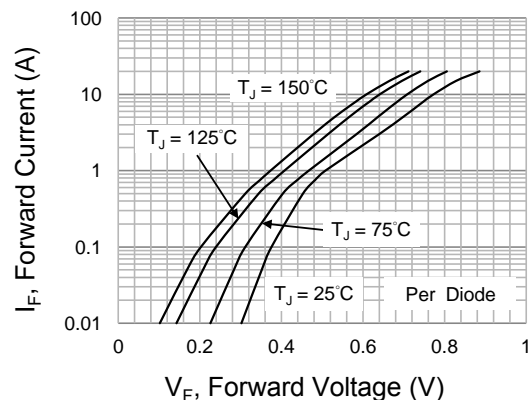
MAXIMUM RATINGS($T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	120	V
Maximum rms voltage	V_{RMS}	84	V
Maximum average forward rectified current	$I_{F(AV)}$	20 10	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	200	A
Typical thermal resistance per diode	$R_{\theta Jc}$	10	$^{\circ}\text{C/W}$
Operating junction temperature range	T_J	-55 to + 150	$^{\circ}\text{C}$
Storage temperature range	T_{STG}	-55 to + 150	$^{\circ}\text{C}$

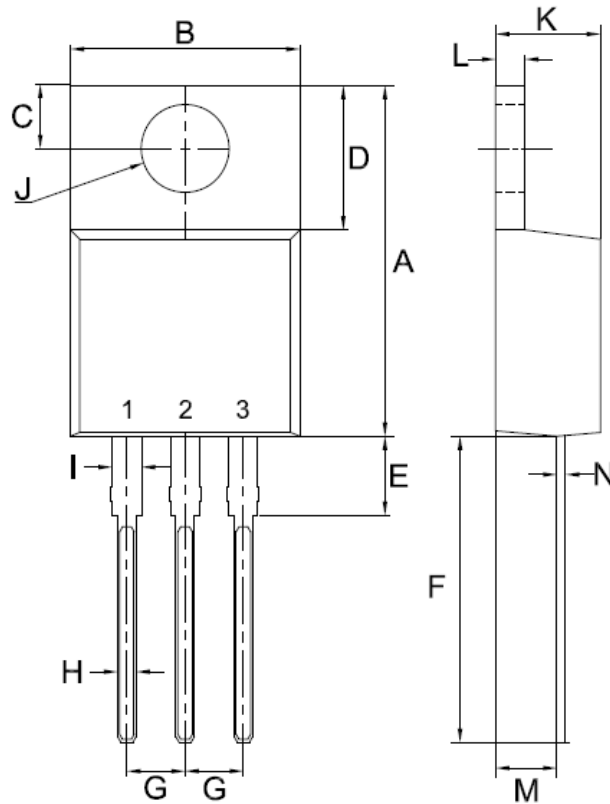
Note : 1. Mounted on infinite heatsink.

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

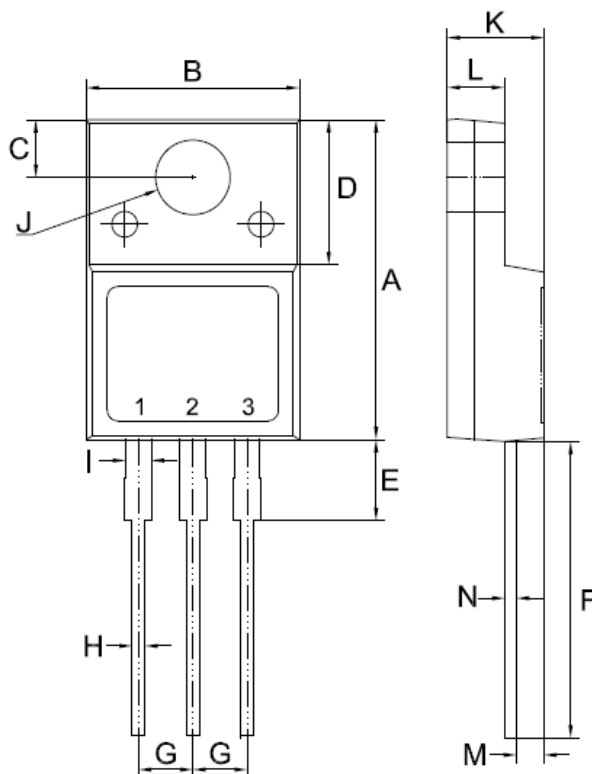
PARAMETER	SYMBOL	TEST CONDITION		MIN.	TYP.	MAX.	UNITS
Breakdown voltage per diode	V_{BR}	$I_R=0.5\text{mA}$	$T_J=25^\circ\text{C}$	120	-	-	V
Instantaneous forward voltage per diode	V_F	$I_F=1\text{A}$	$T_J=25^\circ\text{C}$	-	0.48	-	V
		$I_F=5\text{A}$		-	0.64	-	
		$I_F=10\text{A}$		-	0.76	0.80	
		$I_F=1\text{A}$	$T_J=125^\circ\text{C}$	-	0.41	-	V
$I_F=5\text{A}$	-	0.56		-			
Reverse current per diode	I_R	$V_R=96\text{V}$	$T_J=25^\circ\text{C}$	-	2	-	μA
		$V_R=120\text{V}$	$T_J=25^\circ\text{C}$	-	-	50	μA
			$T_J=125^\circ\text{C}$	-	2.6	-	mA

RATING AND CHARACTERISTIC CURVES

Fig.1 Forward Current Derating Curve

Fig.2 Typical Junction Capacitance

Fig.3 Typical Reverse Characteristics

Fig.4 Typical Forward Characteristics

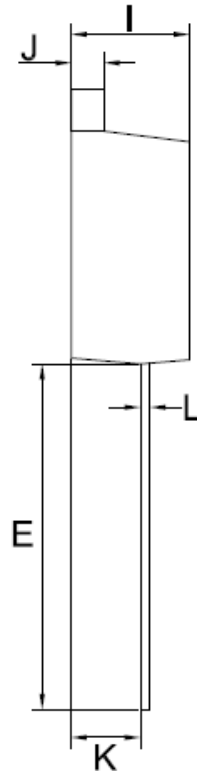
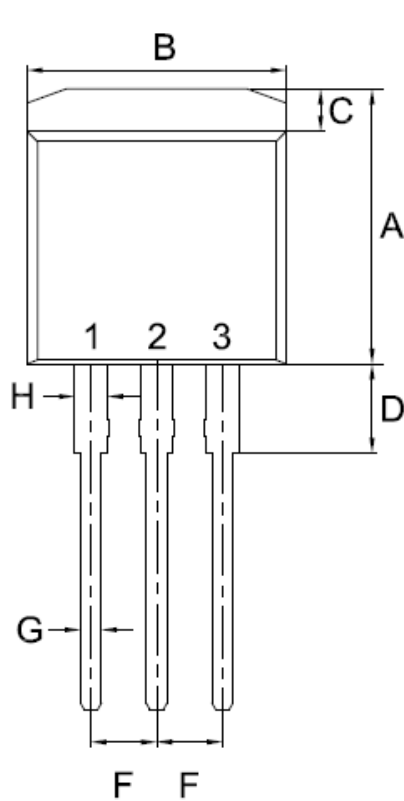
Package Outline Dimensions



TO-220AB		
Unit:mm		
DIM	MIN	MAX
A	14.80	15.80
B	9.57	10.57
C	2.54	2.94
D	5.80	6.80
E	2.95	3.95
F	12.70	13.40
G	2.34	2.74
H	0.51	1.11
I	0.97	1.57
J	3.54 ϕ	4.14 ϕ
K	4.27	4.87
L	1.07	1.47
M	2.03	2.92
N	0.30	0.64

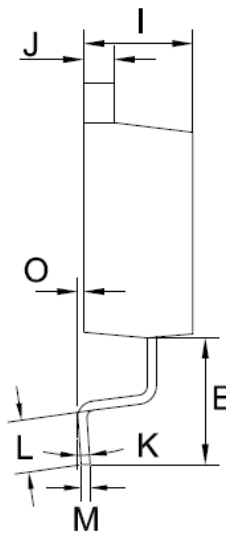
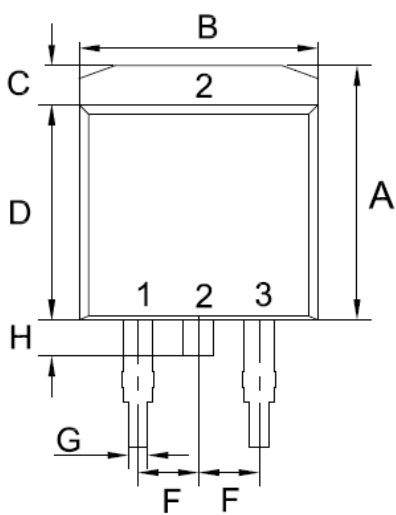


ITO-220AB		
Unit:mm		
DIM	MIN	MAX
A	14.50	15.50
B	9.50	10.50
C	2.50	2.90
D	6.30	7.30
E	3.30	4.30
F	13.00	14.00
G	2.35	2.75
H	0.30	0.90
I	0.90	1.50
J	3.20	3.80
K	4.24	4.84
L	2.52	2.92
M	1.09	1.49
N	0.47	0.64

Package Outline Dimensions

TO-262 (I² PAK)

Unit:mm

DIM	MIN	MAX
A	10.14	11.14
B	9.57	10.57
C	1.44	1.84
D	2.95	3.95
E	12.70	13.40
F	2.34	2.74
G	0.51	1.11
H	0.97	1.57
I	4.27	4.87
J	1.07	1.47
K	2.03	2.92
L	0.30	0.46


TO-263 (D² PAK)

Unit:mm

DIM	MIN	MAX
A	10.44	10.84
B	9.81	10.21
C	1.44	1.84
D	8.80	9.20
E	4.46	4.66
F	2.44	2.64
G	0.61	1.01
H	0.70	1.30
I	4.27	4.87
J	1.07	1.47
K	0°	8°
L	2.10	2.50
M	0.30	0.46
O	0	0.25

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