



### Features

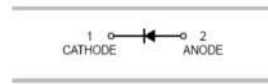
- Low Forward Voltage Drop.
  - Excellent High Temperature Stability.
  - Super Barrier Design.
  - Soft, Fast Switching Capability.
-  Lead-free  
 HF

### Typical Applications

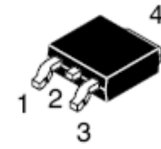
Device Optimized For Low Forward Voltage Drop to Maximize Efficiency in Power Supply Applications.

### Mechanical Data

- Case: ITO-220AC, TO-252.
- Molding compound, UL flammability classification rating 94V-0.
- Terminals: Matte tin plated leads, solderable per MIL-STD-202, Method 208.



**SBTF5100**  
**ITO-220AC**



**SBTD5100N**  
**TO-252**

### Ordering Information

Part Number	Package	Shipping	Marking Code
SBTF5100□	ITO-220AC	50/Tube	SBTF5100
SBTD5100N□	TO-252	80/Tube or 2500/Tape Reel	SBTD5100N

□: none is for Lead Free package;  
“G” is for Halogen Free package.

### Maximum Ratings (@ $T_A=25^{\circ}\text{C}$ unless otherwise specified)

Characteristic	Symbol	Value	Units
Peak repetitive reverse voltage	$V_{RRM}$	100	V
RMS reverse voltage	$V_{RMS}$	70	V
DC blocking voltage	$V_{DC}$	100	V
Maximum average forward output current	$I_{F(AV)}$	5	A
Peak forward surge current, 8.3ms single half-sine-wave	$I_{FSM}$	105	A

### Thermal Characteristics

Parameter	Symbol	SBTF5100	SBTD5100N	Units
Typical thermal resistance per leg	$R_{\theta JC}^*$	4	6	$^{\circ}\text{C}/\text{W}$
Operating junction temperature range	$T_J$	150		$^{\circ}\text{C}$
Storage temperature range	$T_{STG}$	-65 to +150		$^{\circ}\text{C}$

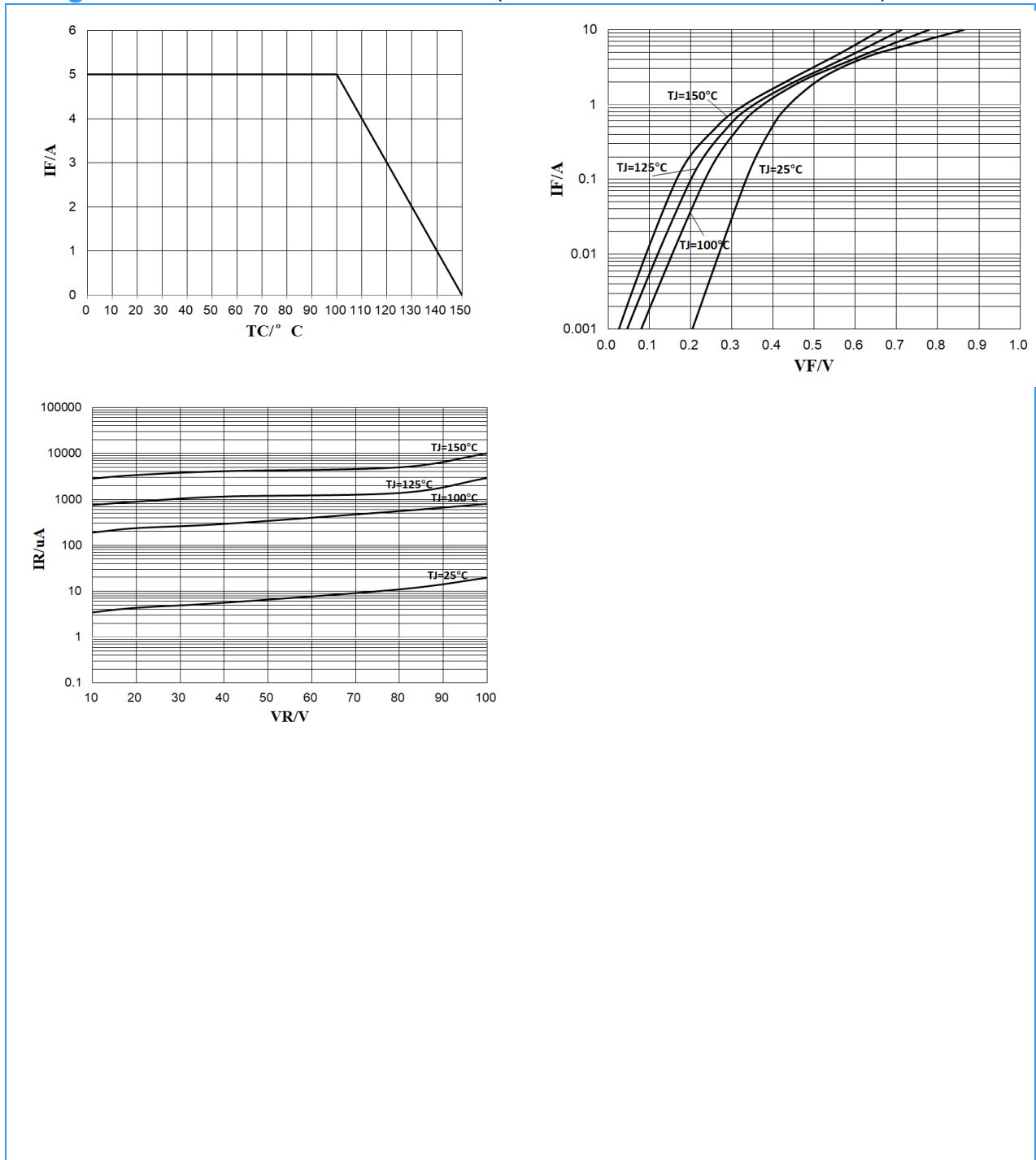
\* Device mounted on additional heatsink, (50mm x 50mm x 23mm Al heatsink).

### Electrical Characteristics (@ $T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Units
Forward Voltage	$V_F^*$	$I_F=5\text{A}, T_J=25^\circ\text{C}$	-	-	0.71	V
		$I_F=5\text{A}, T_J=125^\circ\text{C}$	-	0.62	-	
Maximum Peak Reverse Current	$I_R^*$	$V_R=\text{Rated } V_{RRM}, T_J=25^\circ\text{C}$	-	-	50	$\mu\text{A}$
		$V_R=\text{Rated } V_{RRM}, T_J=125^\circ\text{C}$	-	-	25	m A

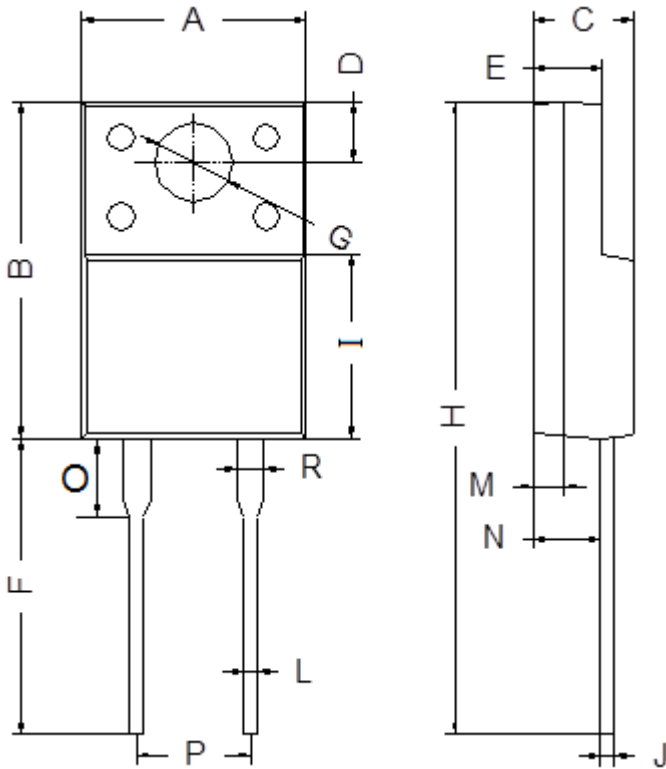
\*Pulse width < 300  $\mu\text{s}$ , Duty cycle < 2%

### Ratings and Characteristic Curves ( $T_A=25^\circ\text{C}$ unless otherwise noted)



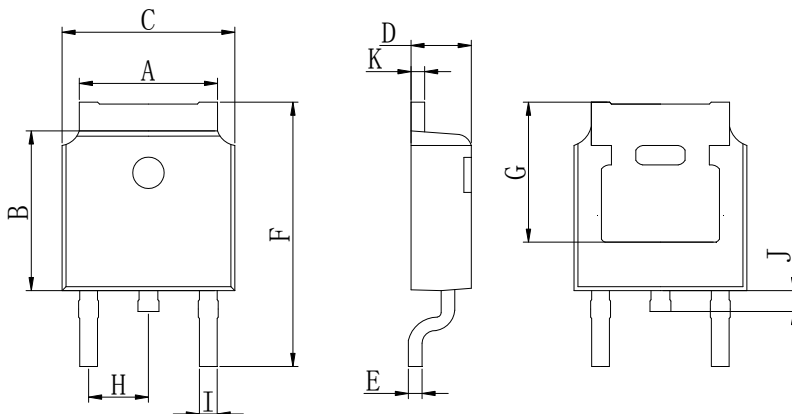
### Package Outline Dimensions (unit:mm)

#### ITO-220AC



ITO-220AC		
Dim	Min	Max
A	9.90	10.30
B	14.80	15.20
C	4.30	4.70
D	2.50	2.90
E	2.80	3.30
F	13.00	13.60
G	3.10	3.30
H	28.00	28.60
I	7.90	8.90
J	0.40	0.60
L	0.70	0.90
M	1.30	1.50
N	2.60	2.80
O	2.60	3.10
P	5.00	5.20
R	1.10	1.30

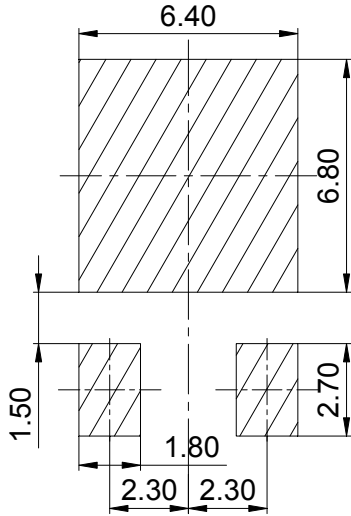
#### TO-252



TO-252		
Dim	Min	Max
A	5.05	5.65
B	5.80	6.40
C	6.25	6.85
D	2.20	2.40
E	0.40	0.60
F	9.71	10.31
G	5.05	5.65
H	2.10	2.50
I	0.70	0.90
J	0.50	0.70
K	0.40	0.60

## Mounting Pad Layout (unit:mm)

### TO-252



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