

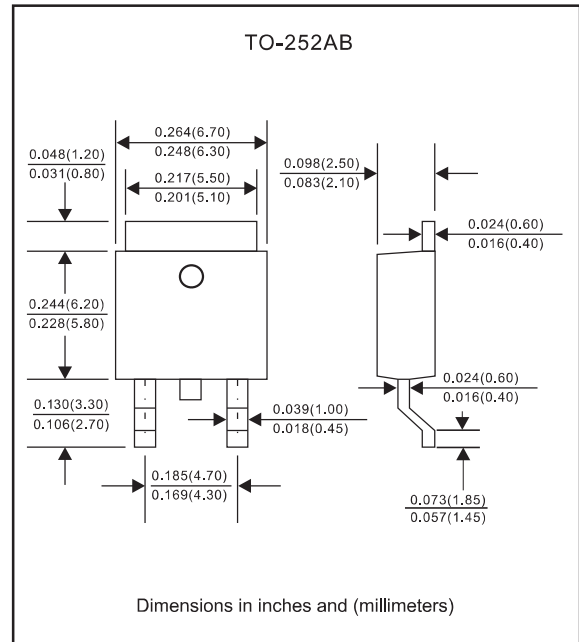
### Features

- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- High current capability.
- Super fast reovery time for switching mode application.
- High surge current capability.
- Glass passivated chip junction.
- Lead-free parts meet environmental standards of MIL-STD-19500/228
- Compliant to Halogen-free

### Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, TO-252AB
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Mounting Position : Any

### Package outline



### Maximum ratings and Electrical Characteristics (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	$I_O$			10.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	$I_{FSM}$			170	A
Reverse current	$V_R = V_{RRM}$ $T_J = 25^{\circ}\text{C}$	$I_R$			1.0	$\mu\text{A}$
	$V_R = V_{RRM}$ $T_J = 125^{\circ}\text{C}$				300	
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	$C_J$		45		pF
Storage temperature		$T_{STG}$	-55		+150	$^{\circ}\text{C}$

SYMBOLS	$V_{RRM}^{*1}$ (V)	$V_{RMS}^{*2}$ (V)	$V_R^{*3}$ (V)	$V_F^{*4}$ (V)	$t_{rr}^{*5}$ (ns)	Operating temperature $T_J$ , ( $^{\circ}\text{C}$ )
SF102YD	100	70	100	0.95	35	-55 to +150
SF104YD	200	140	200			
SF105YD	300	210	300	1.30		
SF106YD	400	280	400			
SF107YD	500	350	500	1.70		
SF108YD	600	420	600			

\*1 Repetitive peak reverse voltage

\*2 RMS voltage

\*3 Continuous reverse voltage

\*4 Maximum forward voltage@ $I_F=10.0\text{A}$

\*5 Maximum Reverse recovery time, note 1

Note 1. Reverse recovery time test condition,  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$

# Rating and characteristic curves (SF102YD THRU SF108YD)

FIG.1 - FORWARD CURRENT DERATING CURVE

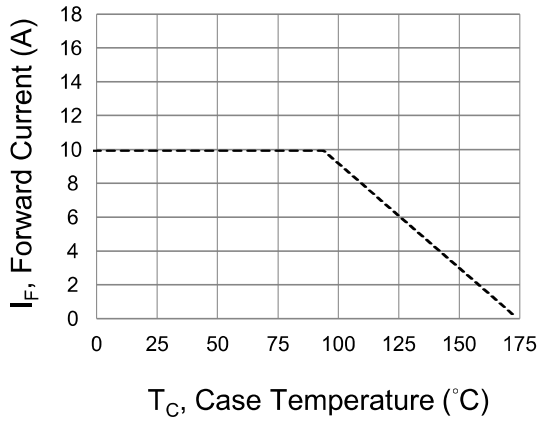


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

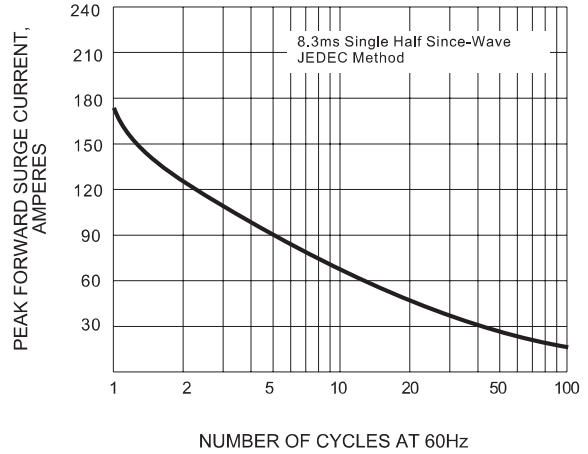


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

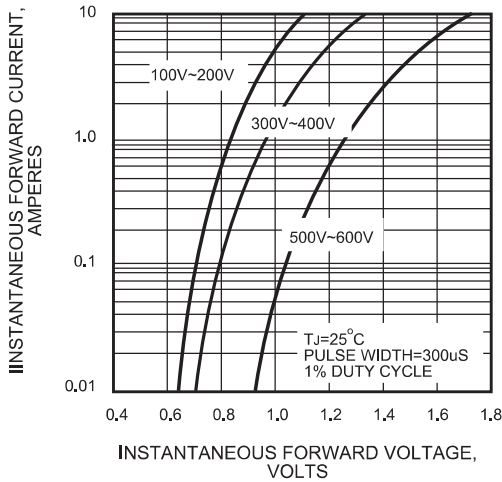


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

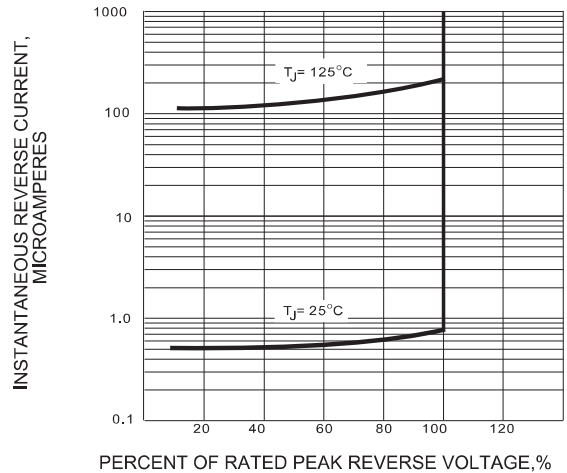
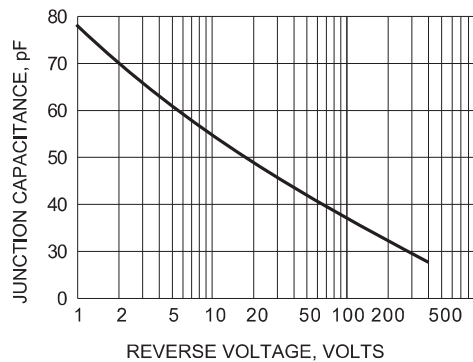
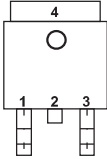
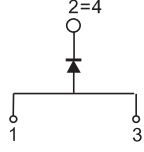


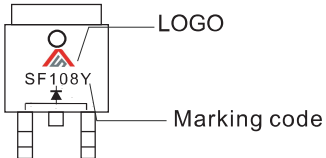
FIG.5 - TYPICAL JUNCTION CAPACITANCE



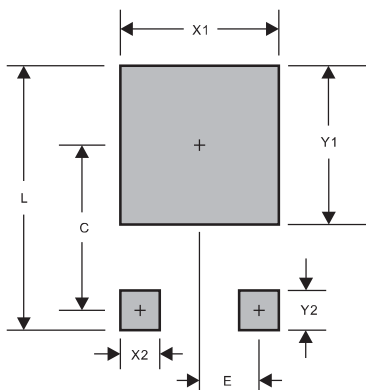
### Pinning information

Simplified outline	Symbol
	

### Marking

Type number	Marking code	Example
SF102YD	SF102Y	
SF104YD	SF104Y	
SF105YD	SF105Y	
SF106YD	SF106Y	
SF107YD	SF107Y	
SF108YD	SF108Y	

### Suggested solder pad layout



PACKAGE	TO-252AB
C	0.272(6.90)
E	0.091(2.30)
L	0.457(11.60)
X1	0.276(7.00)
X2	0.059(1.50)
Y1	0.276(7.00)
Y2	0.098(2.50)

Dimensions in inches and (millimeters)