

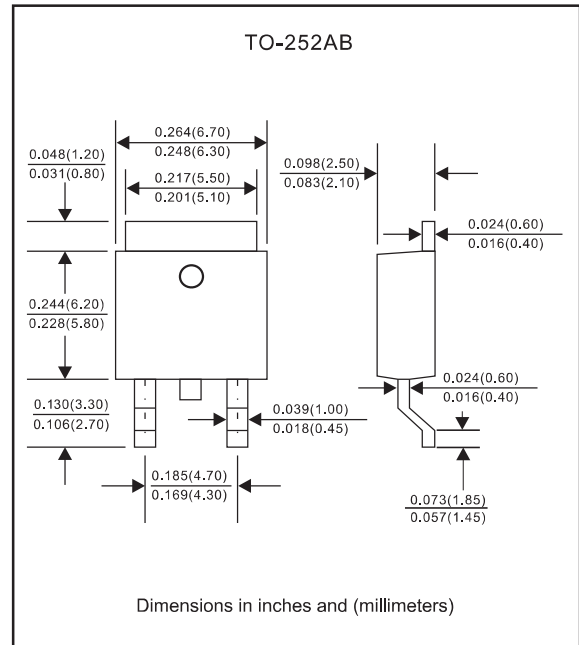
Features

- 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	μA
	$V_R = V_{RRM}$ $T_J = 125^{\circ}\text{C}$				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

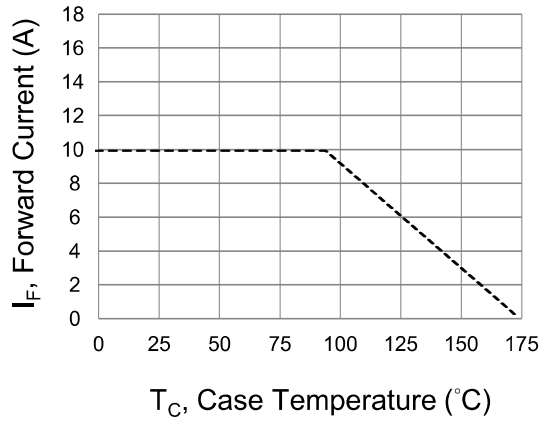


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

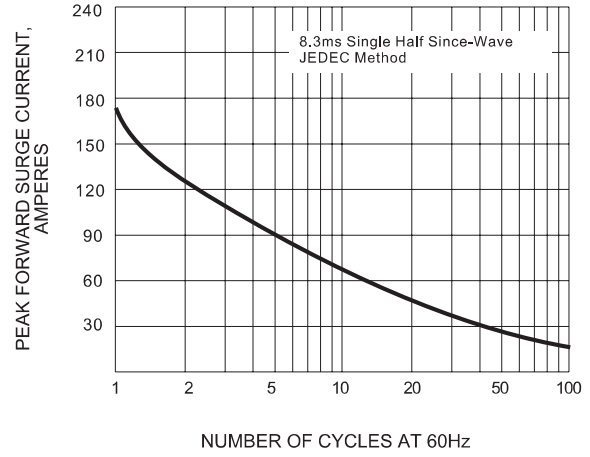


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

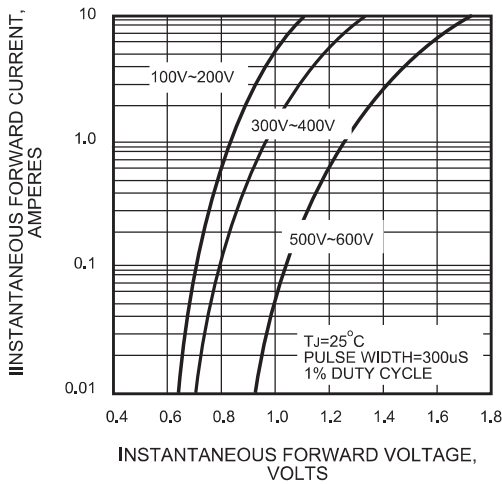


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

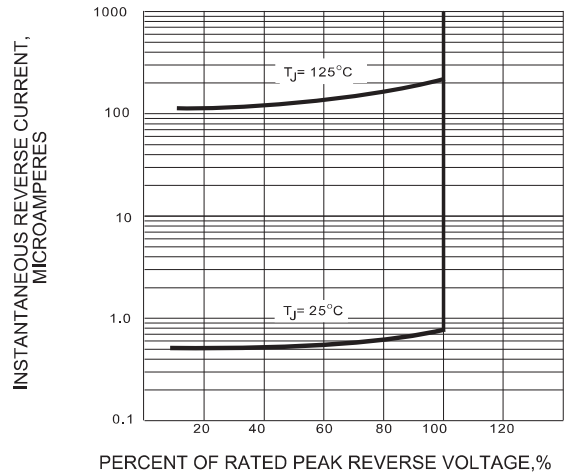
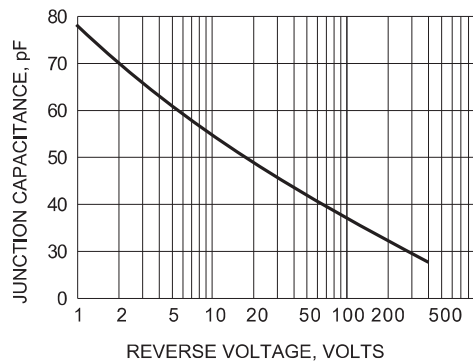


FIG.5 - TYPICAL JUNCTION CAPACITANCE



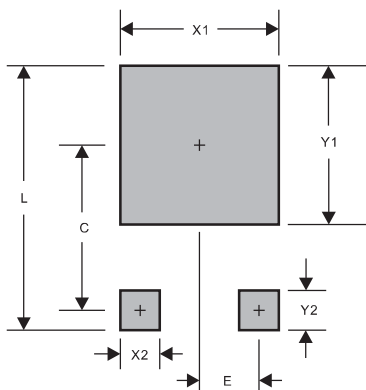
Pinning information

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)