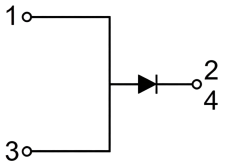
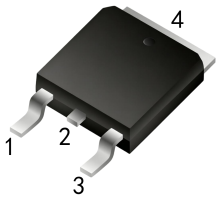
Superfast Recovery Rectifiers

Parameter	Value	Unit
V_{RRM}	100~600	V
$I_{F(AV)}$	10	A

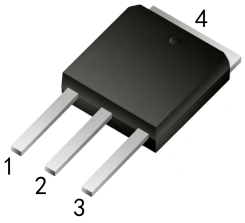


Features

- High current capability
- Low forward voltage drop
- Low power loss, high efficiency
- High surge capability
- High temperature soldering guaranteed



TO-252



TO-251

Applications

- Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

Absolute Maximum Ratings(Ta=25℃,unless otherwise noted)

Parameter	TO-251	SF1001VS	SF1002VS	SF1003VS	SF1004VS	SF1005VS	SF1006VS	Unit
	TO-252	SF1001DS	SF1002DS	SF1003DS	SF1004DS	SF1005DS	SF1006DS	
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	100	200	300	400	500	600	V
Maximum RMS Voltage	V_{RMS}	70	140	210	280	350	420	V
Maximum DC Blocking Voltage	V_{DC}	100	200	300	400	500	600	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	10						A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load (JEDEC Method)	I_{FSM}	300						A
Maximum Forward Voltage at 8.0A DC	V_F	1.0		1.30		1.70		V
Maximum DC Reverse Current T_J=25℃ at Rated DC Blocking Voltage T_J=125℃	I_R	1.0 300						uA
Typical Junction Capacitance Per Element (Note1)	C_J	45						pF
Typical Thermal Resistance(Note2)	$R_{\theta JC}$	15						℃/W
Maximum Reverse Recovery Time(Note3)	T_{rr}	35						ns
Operating Temperature Range	T_J	-55 to +150						℃
Storage Temperature Range	T_{STG}	-55 to +150						℃

Notes:
1.Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
2.Mounted on 10cm x 10cm x 1mm copper pad area
3.Reverse Recovery Test Conditions:IF=0.5A,IR=1A,Irr=0.25A

Typical Characteristics

FIG.1 - FORWARD CURRENT DERATING CURVE

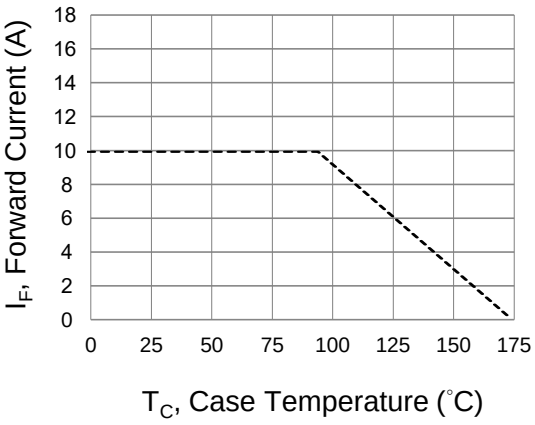


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

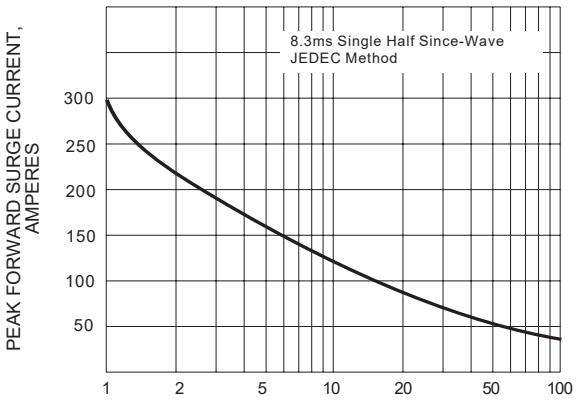


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

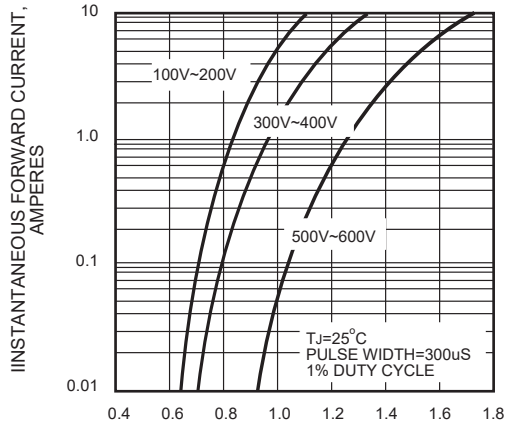


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

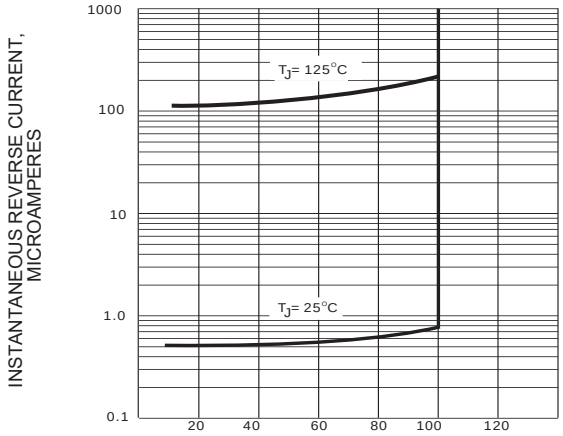
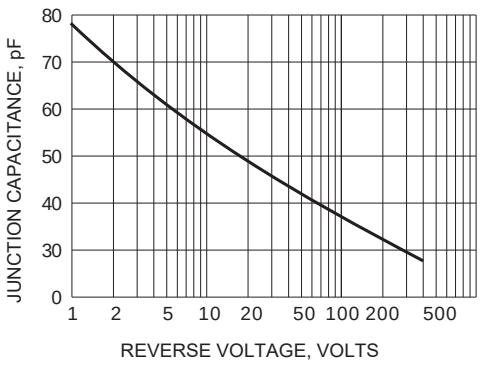
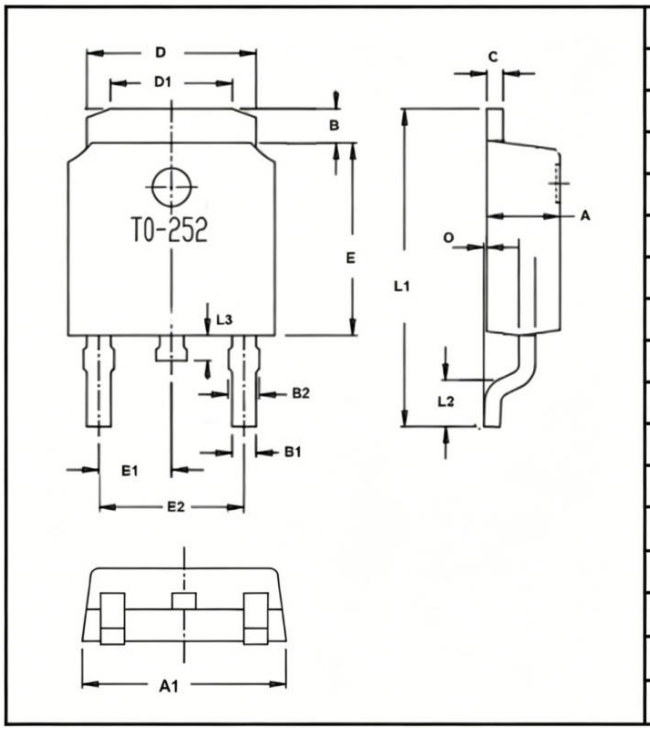


FIG.5 - TYPICAL JUNCTION CAPACITANCE



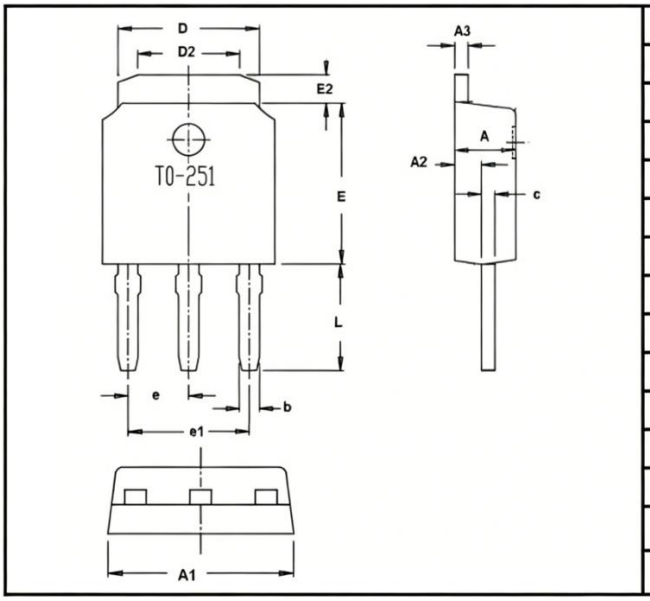
Package Outlines

TO-252



Dim.	Min.	Max.
A	2.1	2.5
A1	6.3	6.9
B	0.95	1.55
B1	0.6	0.8
B2	0.75	0.95
C	Typ0.5	
D	5.3	5.5
D1	3.65	4.05
E	5.8	6.4
E1	Typ2.3	
E2	Typ4.6	
O	0	0.15
L1	9	11
L2	Typ1.5	
L3	0.7	1.0
Dimensions in mm		

TO-251



Dim.	Min.	Max.
A	2.1	2.5
A1	6.3	6.9
A2	0.9	1.1
A3	Typ0.5	
b	0.6	0.8
c	0.4	0.5
D	5.3	5.5
D2	3.65	4.05
E	5.8	6.4
E2	0.9	1.4
e	Typ2.29	
e1	Typ4.58	
L	3.7	4.3
Dimensions in mm		

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