

SF1040SR-HAF

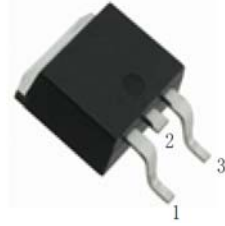
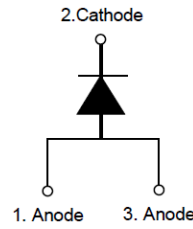
Surface Mount Fast Recovery Rectifier

Reverse Voltage - 400 V

Forward Current - 10 A

Features

- High voltage and high reliability
- High speed switching
- Low power loss and High efficiency
- Halogen and Antimony Free(HAF), RoHS compliant



1. Anode 2. Cathode 3. Anode
TO-252 Plastic Package

Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified. Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20%.

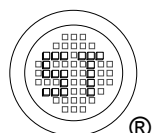
Parameter	Symbols	Value	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	400	V
Working Peak Reverse Voltage	V_{RWM}	400	V
Maximum DC Blocking Voltage	V_R	400	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	10	A
Peak Forward Surge Current 8.3 ms Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	60	A
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 45 to + 150	°C

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Case	$R_{\theta JC}$	4	°C/W

Characteristics at $T_a = 25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage at $I_R = 10 \mu\text{A}$	$V_{(BR)R}$	400	-	-	V
Forward Voltage at $I_F = 10 \text{ A}$, $T_J = 25^\circ\text{C}$ at $I_F = 10 \text{ A}$, $T_J = 125^\circ\text{C}$	V_F	- -	- 1.2	1.4 -	V
Reverse Current at $V_R = 400 \text{ V}$, $T_J = 25^\circ\text{C}$ at $V_R = 400 \text{ V}$, $T_J = 125^\circ\text{C}$	I_R	- -	- 20	20 -	μA
Reverse Recovery Time at $I_F = 0.5 \text{ A}$, $I_R = 1 \text{ A}$, $I_{rr} = 0.25 \text{ A}$	t_{rr}	-	-	30	ns
Total Capacitance at $V_R = 10 \text{ V}$, $f = 1 \text{ MHz}$	C_T	-	65	-	pF



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Electrical Characteristics Curves

Fig 1. Reverse Characteristics Curve

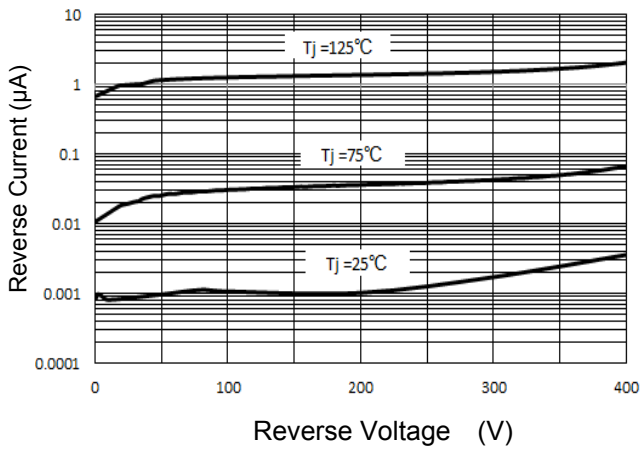


Fig 2. Forward Characteristics Curve

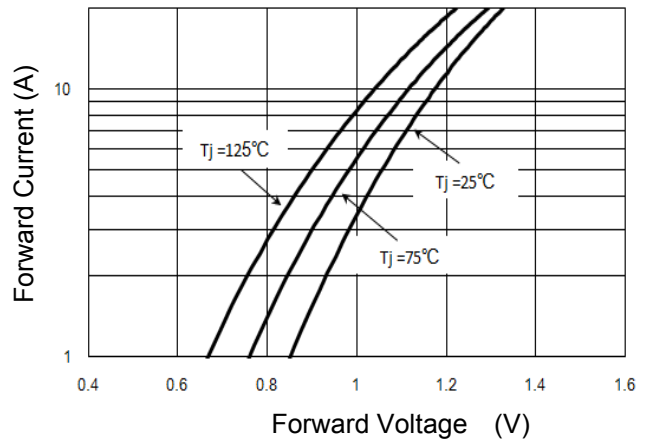


Fig 3. Forward Current Derating Curve

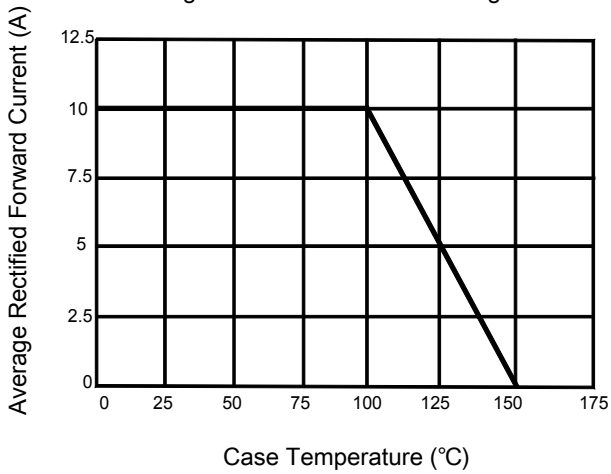
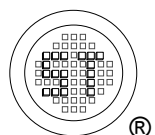
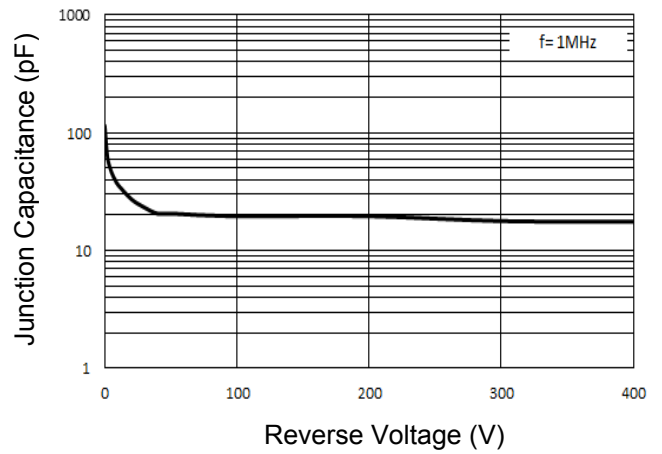


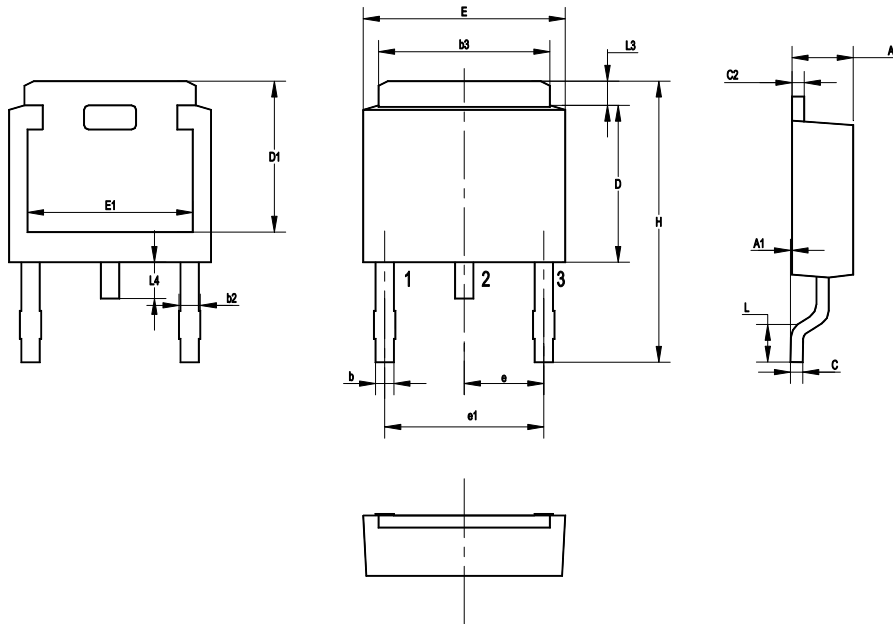
Fig 4. Junction Capacitance



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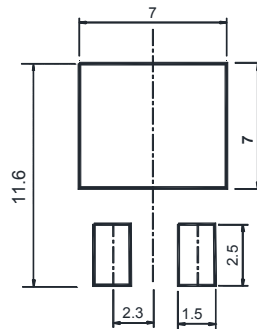
Package Outline Dimensions (Units: mm)

TO-252



UNIT	A	A1	b	b2	b3	C	C2	D	D1	E	E1	e	e1	H	L	L3	L4
mm	2.5	0.15	1.0	1.15	5.5	0.65	0.65	6.2	5.4	6.7	5.0	2.30	4.60	10.7	1.78	1.20	1.10
	2.1	0	0.5	0.65	4.9	0.4	0.4	5.6	5.0	6.1	4.6	TYP.	TYP.	9	1.40	0.85	0.51

Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
TO-252	16	8 ± 0.1	0.315 ± 0.004	330	13	2,500

Marking information

" SF1040SR " = Part No.

" ***** " = Date Code Marking

Font type: Arial

