SF1008GS

Ultrafast Recovery Diode

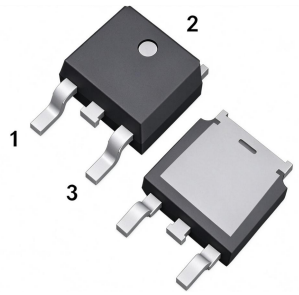
重庆平伟半导体股份有限公司
CHONGQING PINGWEI SEMICONDUCTOR CO., LTD.

10A,600V

Feature

- Ultrafast,soft recovery
- High frequency operation
- Very low I_R value
- Low forward voltage drop
- High junction temperature
- Epitaxial chip construction
- Low power loss, high efficiency
- RoHS 2.0 Compliant

TO-252-2L

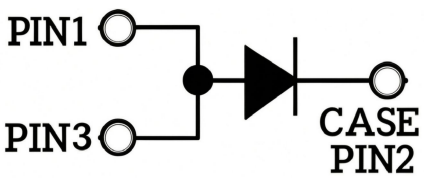


Mechanical Data

- Case: Molded with UL-94 Class V-0 recognized Flame Retardant Epoxy
- Mounting position: any

Key Performance Parameters

Parameter	Values	Unit
$I_{F(AV)}$	10	A
V_{RRM}	600	V
T_J	150	℃
V_F(max)	1.70	V
T_{RR}(max)	35	ns



Package Marking and Ordering Information

Part #	Marking	Package	Packing	Reel Size	Tape Width	Qty
SF1008GS	SF1008GS	TO-252-2L	Tape&reel	13 inch	16 mm	2500pcs

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Absolute Maximum Ratings (T_J=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	600	V
Maximum RMS Voltage	V_{RMS}	420	V
Maximum DC blocking Voltage	V_{DC}	600	V
Maximum Average Forward Rectified Current *TC = 100 ℃*	$I_{F(AV)}$	10	A
Non-Repetitive Peak Forward Surge Current T_J=25℃,t_p=8.3 ms, Half Sine Pulse	I_{FSM}	100	A
Operating junction and storage temperature	T_J,T_{stg}	-55 to +150	℃

Thermal Resistance

Parameter	Symbol	Condition	Value			Unit
			min.	typ.	max.	
Thermal resistance, junction - case	R_{thJC}	-	-	-	6.5	℃/W
Thermal resistance, junction - ambient	R_{thJA}	Mounted on 1 inch², 2 oz single copper FR-4 PCB.	-	-	50.0	℃/W

Electrical Characteristic

Static Characteristic (T_J=25℃ unless otherwise noted)

Parameter	Symbol	Test Condition	Value			Unit
			min.	typ.	max.	
Reverse breakdown voltage	V_{RRM}	I_R=100uA	600	-	-	V
Forward voltage	V_F	I_F=10A,T_J=25°C	-	1.30	1.70	V
		I_F=10A,T_J=125°C	-	1.20	1.60	V
Reverse current	I_R	V_R=600V,T_J=25°C	-	0.02	10	μA
		V_R=600V,T_J=125°C	-	10.0	400	

Dynamic Characteristic (T_J=25℃ unless otherwise noted)

Parameter	Symbol	Test Condition	Value			Unit
			min.	typ.	max.	
Total capacitance	C_J	V_R=4V,f=1MHz	-	50	-	pF
Reverse Recovery Time	t_{rr}	I_F=0.5A,I_R=1A,I_{RR}=0.25A	-	-	35	ns

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Typical Performance Characteristics

Fig 1:Forward Current Derating Curve

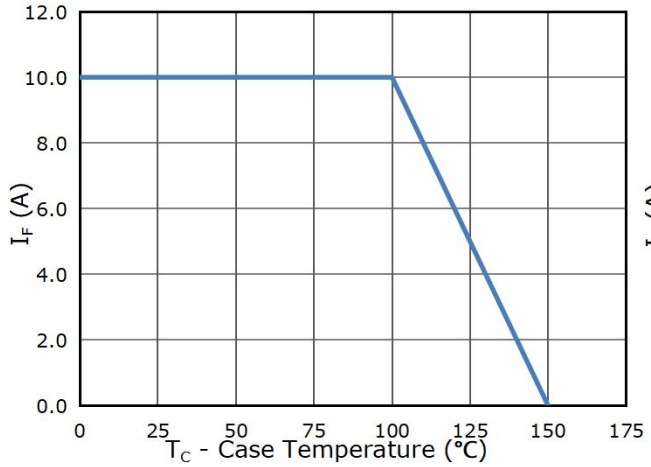


Fig 2: Forward Characteristics

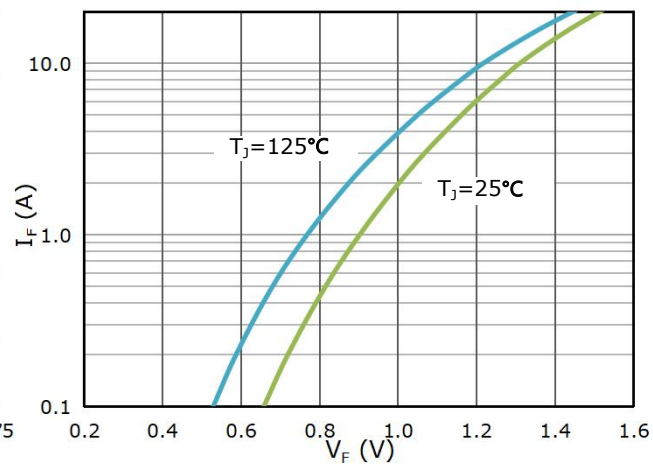


Fig 3: Maximun Non-repetitive Forward Surge Current

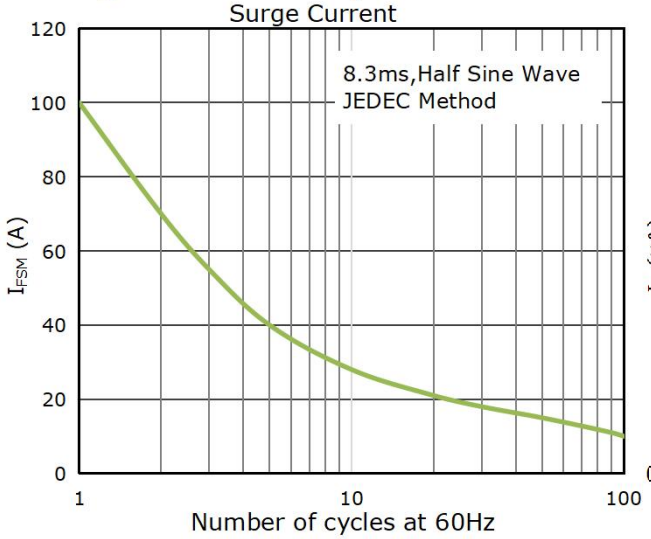
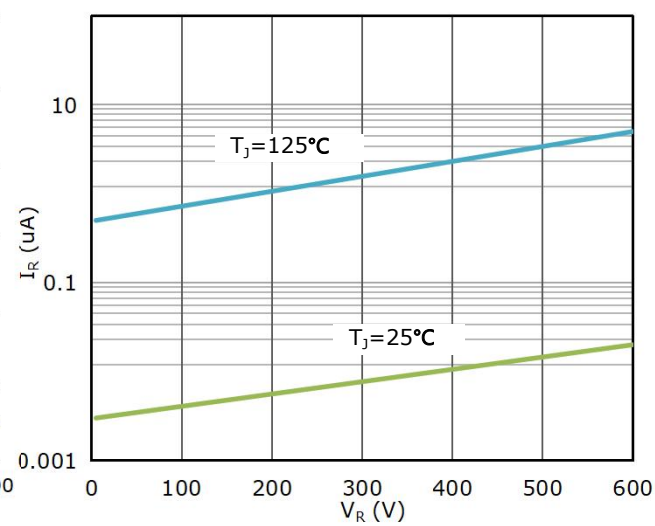
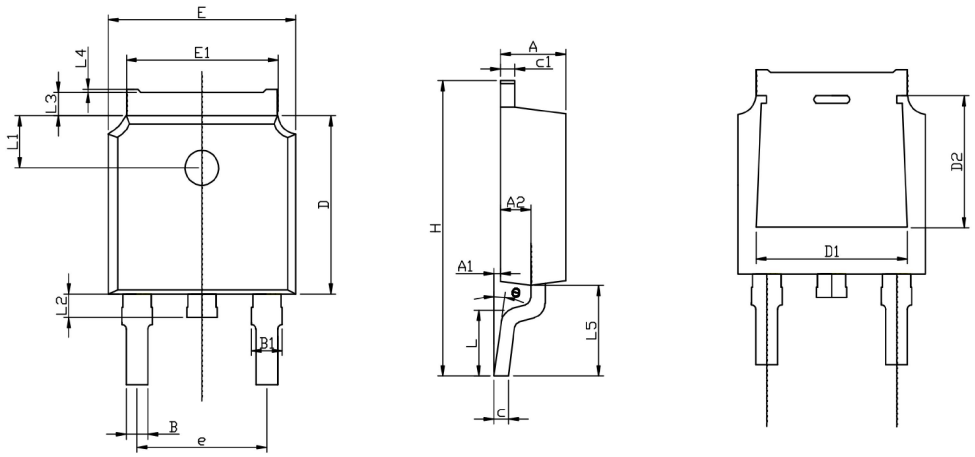


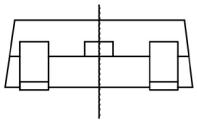
Fig 4: Reverse Characteristics



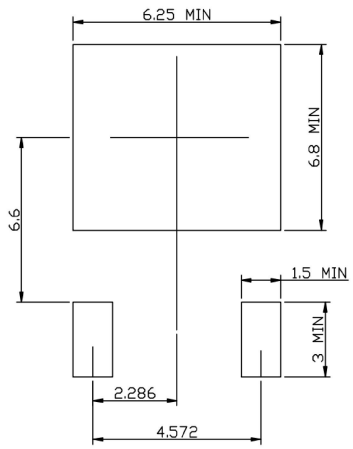
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Package Outline: TO-252-2L





RECOMMENDED LAND PATTERN



	MIN	NOM	MAN
A	2.15	2.30	2.45
A1	0.05	0.10	0.20
A2	0.91	1.07	1.22
B	0.66	0.76	0.86
B1	0.93	1.08	1.23
C	0.40	0.50	0.60
C1	0.40	0.50	0.60
D	5.95	6.10	6.25
D1	-	4.8REF	-
D2	-	3.8REF	-
E	6.45	6.60	6.75
E1	5.12	5.32	5.52
L		1.65	
L1	1.58	1.78	1.98
L2	0.60	0.80	1.00
L3	0.70	0.85	1.00
L4	0.00	0.05	0.20
L5	2.80	3.10	3.40
H	9.80	10.10	10.40
θ	0°		8°
e		4.572REF	

UNIT: mm

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