SF58GG

Ultrafast Recovery Diode

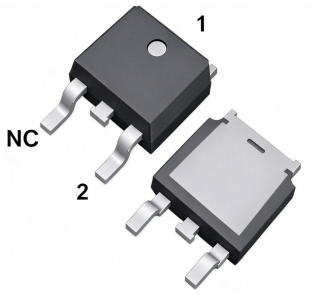
重庆平伟半导体股份有限公司
CHONGQING PINGWEI SEMICONDUCTOR CO., LTD.

5A,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

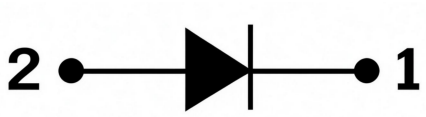


Mechanical Data

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

Key Performance Parameters

Parameter	Values	Unit
$I_{F(AV)}$	5	A
V_{RRM}	600	V
T_J	150	℃
V_F(max)	1.40	V
T_{RR}(max)	35	ns



Package Marking and Ordering Information

Part #	Marking	Package	Packing	Reel Size	Tape Width	Qty
SF58GG	SF58GG	TO-252-2L	Tape&reel	13 inch	16 mm	2500pcs

©ChongQing PingWei Semiconductor CO., LTD

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 ℃*	$I_{F(AV)}$	5	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=5A,T_J=25°C	-	1.20	1.40	V
		I_F=5A,T_J=125°C	-	1.10	1.30	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

©ChongQing PingWei Semiconductor CO., LTD

Typical Performance Characteristics

Fig 1:Forward Current Derating Curve

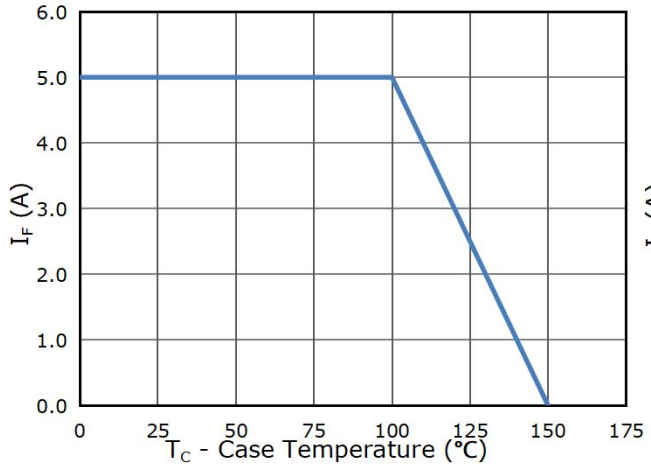


Fig 2: Forward Characteristics

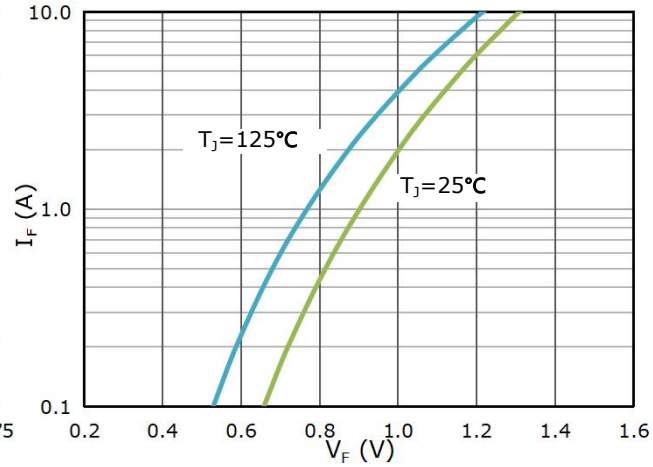


Fig 3: Maximun Non-repetitive Forward Surge Current

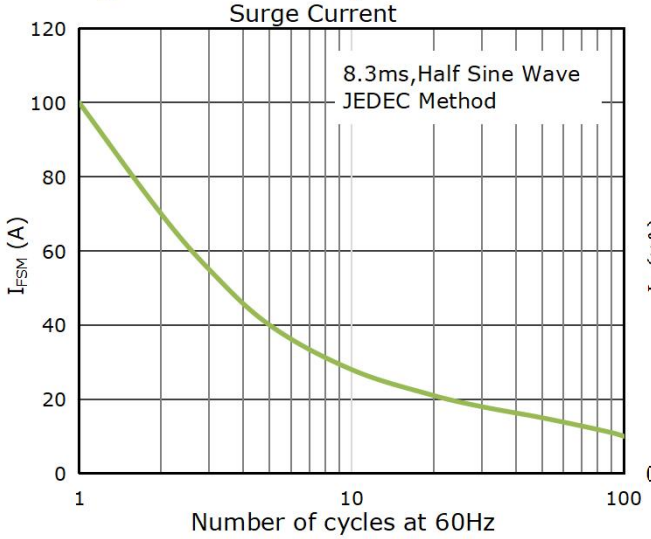
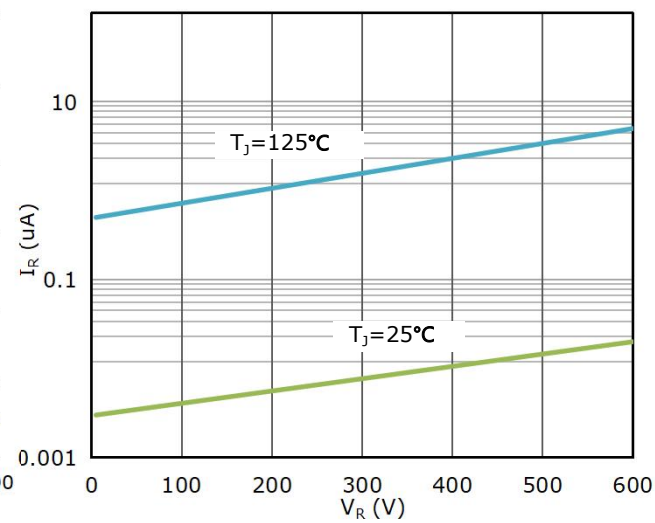
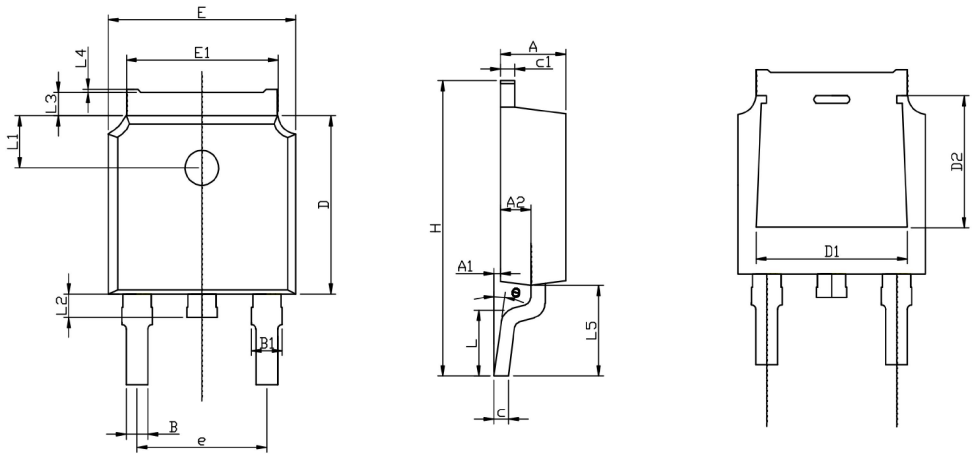


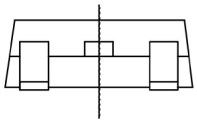
Fig 4: Reverse Characteristics



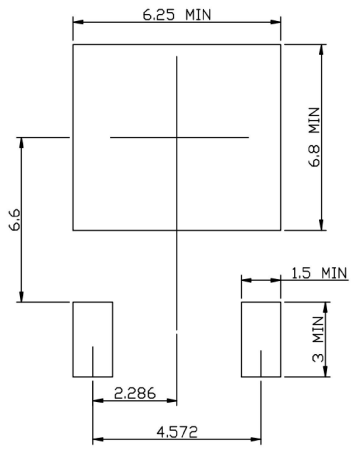
©ChongQing PingWei Semiconductor CO., LTD

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

©ChongQing PingWei Semiconductor CO., LTD

Disclaimer

Any and all semicondutor products have certain probability to fail or malfunction, which may result in personal injury, death or property damage. Customer are solely responsible for providing adequate safe measures when design their systems.

Unless otherwise specified in the datasheet, the product is designed and qulified as a standard commercial product and is not intended for use in applications that require extraordinary levels of quality and reliability, such as automotive, aviation/aerospace and life-support devices or systems.

Buyer is responsible for its products and applications using PingWei products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by PingWei.

"Typical" parameters which may be provided in PingWei data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE

©ChongQing PingWei Semiconductor CO., LTD