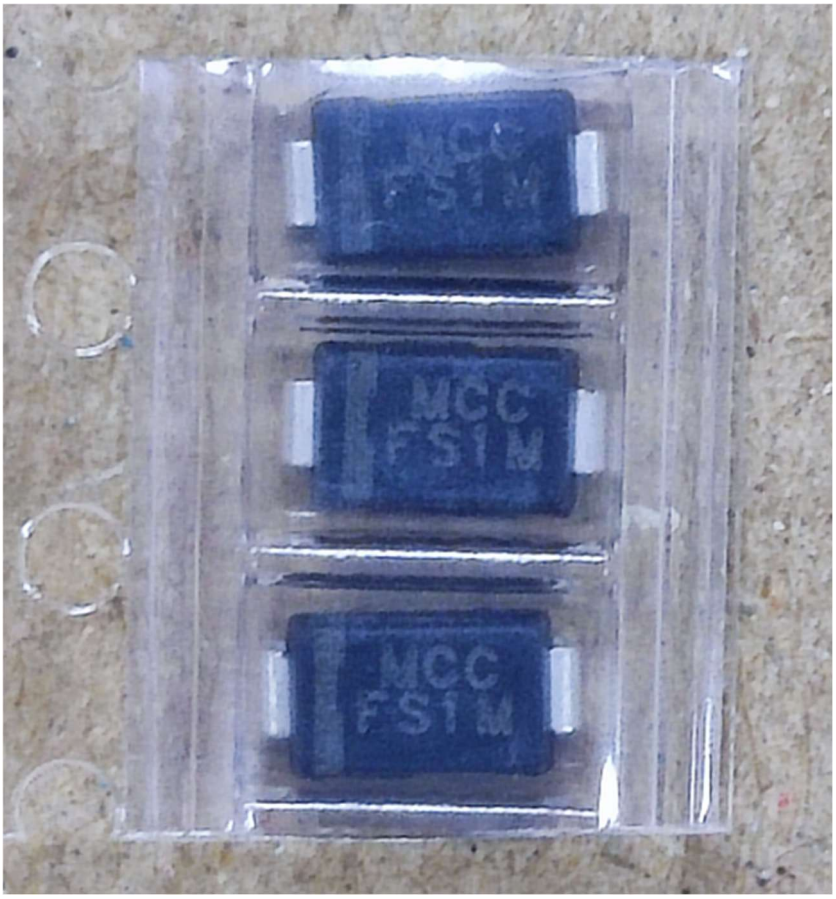


設計驗證
工程課
2025 -06- 26
發行
鈺緯科技開發股份有限公司

承　認　書

SPECIFICATION FOR APPROVAL

CUSTOMER: 鈺緯科技開發股份有限公司

PRODUCTS: **MCC**

PART NUMBER: **3DFS1M0001Y** (D0178)
FS1M-LTP

SAMPLE QUANTITY: **10 EA**

ISSUED DATE: 06/17/25　　APPROVED DATE:

APPROVED	REFERENCE
設計驗證 工程課 2025 -06- 26 發行 鈺緯科技開發股份有限公司	宇得國際企業有限公司 TEL： 2911-3323 台北縣新店市寶高路13號4樓

Unit-Teek
宇得國際企業有限公司　Unit-Teek ENTERPRISE CO., LTD.
台灣新北市新店區寶高路13號4樓　TEL: 886-2-2911-3323　FAX: 886-2-2911-3320
4F., No.13, Baogao Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.)　E-Mail: unitt@ms25.hinet.net

Features

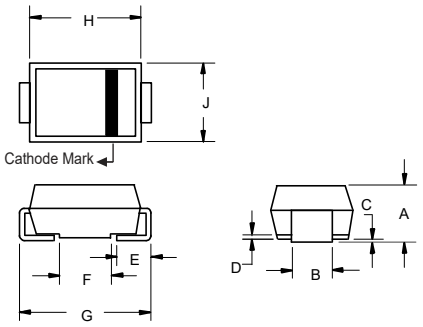
- Halogen Free. “Green” Device (Note 1)
- Fast Reverse Recovery Time
- Glass Passivated Chip Junction
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant (Note 2)("P" Suffix Designates RoHS Compliant. See Ordering Information)

1 Amp Fast Recovery Rectifier 50 to 1000 Volts

Maximum Ratings @ 25°C (Unless Otherwise Specified)

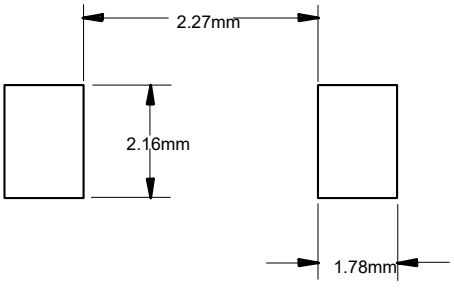
Parameter	Symbol	Value							Unit
		FS 1A-L	FS 1B-L	FS 1D-L	FS 1G-L	FS 1J-L	FS 1K-L	FS 1M-L	
Peak Repetitive Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Working Peak Reverse Voltage	V_{RWM}								
DC Blocking Voltage	V_R								
RMS Reverse Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Average Rectified Forward Current @ T_L=115°C	$I_{F(AV)}$	1							A
Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave	I_{FSM}	30							A
Non-Repetitive Peak Surge Current @ 1ms Square Wave		60							
Current Squared Time @1ms≤t≤8.3ms	I^2t	3.735							A^2s

SMA (DO-214AC)



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.075	0.096	1.90	2.44	
B	0.050	0.064	1.27	1.63	
C	0.002	0.008	0.051	0.203	
D	---	0.020	---	0.51	
E	0.030	0.060	0.76	1.52	
F	0.065	0.091	1.65	2.32	
G	0.189	0.220	4.80	5.59	
H	0.157	0.187	4.00	4.75	
J	0.090	0.115	2.25	2.92	

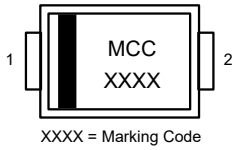
SUGGESTED SOLDER PAD LAYOUT



Marking Code

Part Number	Marking Code
FS1A-L	FS1A
FS1B-L	FS1B
FS1D-L	FS1D
FS1G-L	FS1G
FS1J-L	FS1J
FS1K-L	FS1K
FS1M-L	FS1M

Internal Structure

Pin	Description	Simplified Outline	Graphic Symbol
1	Cathode		
2	Anode		

Note: 1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

2. High temperature solder exemption applied, see EU directive annex 7a.

Thermal characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
T_J	Operating Junction Temperature Range		-55		150	°C
T_{stg}	Storage Temperature Range		-55		150	°C
$Rth_{(J-L)}$	Thermal Resistance from Junction to Lead	Note 1		25		°C/W
$Rth_{(J-A)}$	Thermal Resistance from Junction to Ambient	Note 1		80		°C/W

Note:
1.Mounted on P.C.B. with 8mm*8mm copper pad areas.

Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage	V_F	I_F=1A;T_J=25°C			1.30	V
Reverse Current	I_R	at Rated V_R;T_J=25°C at Rated V_R;T_J=125°C			5 50	μA
Reverse Recovery Time FS1A-L~FS1G-L FS1J-L FS1K-L~FS1M-L	t_{rr}	I_F=0.5A; I_R=1.0A; I_{rr}=0.25A;T_J=25°C			 150 250 500	ns
Junction Capacitance FS1A-L~FS1J-L FS1K-L~FS1M-L	C_J	V_R=4V;f=1MHz;T_J=25°C		 11 7		pF

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

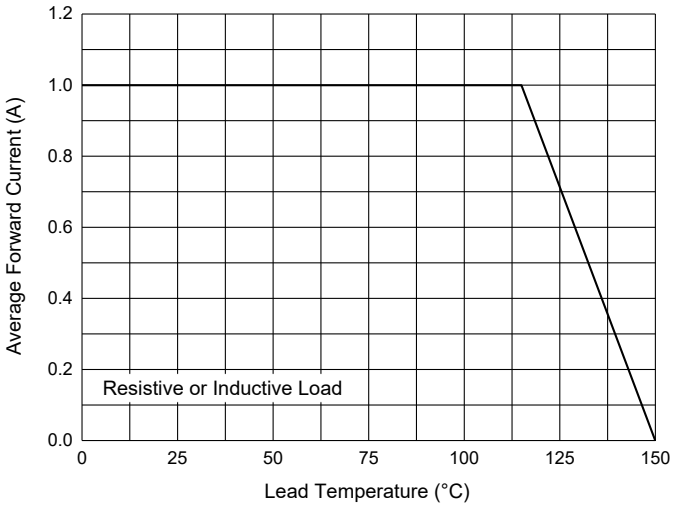


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

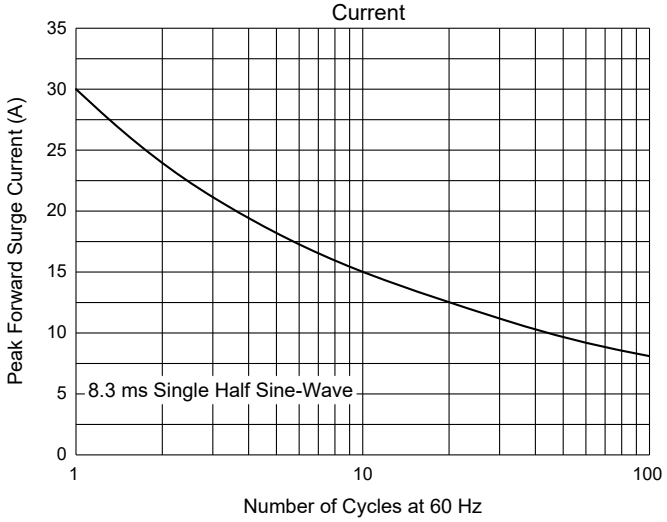


Fig. 3 - Typical Forward Characteristics

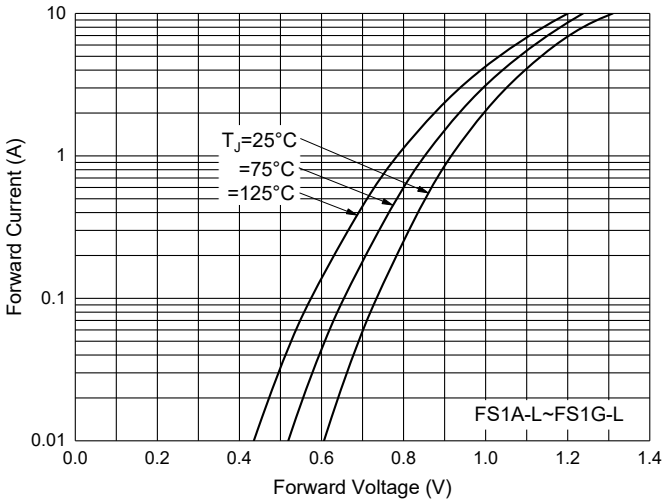


Fig. 4 - Typical Forward Characteristics

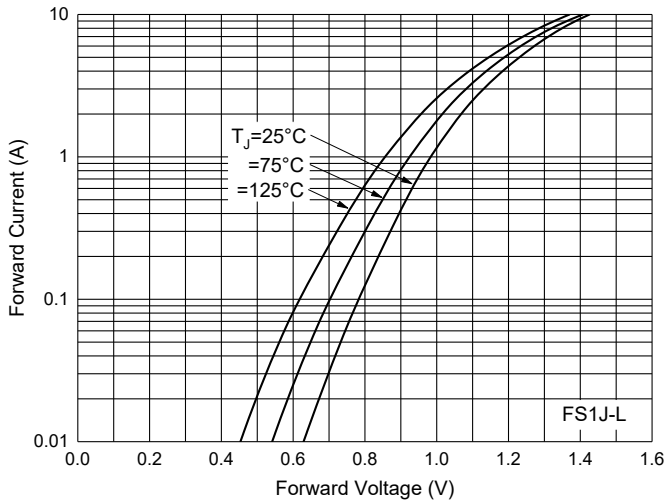


Fig. 5 - Typical Forward Characteristics

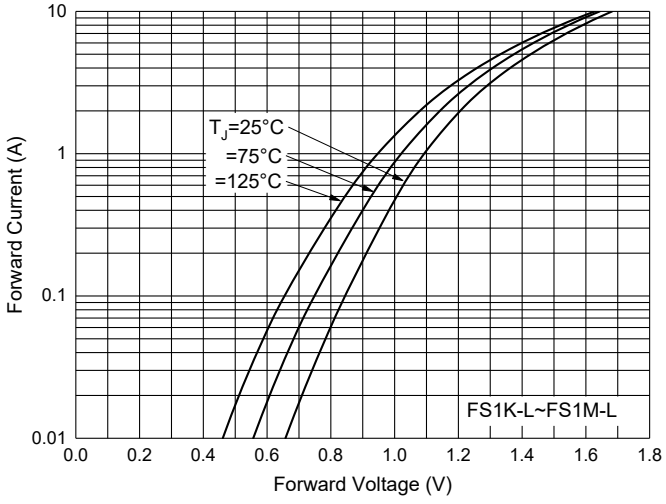
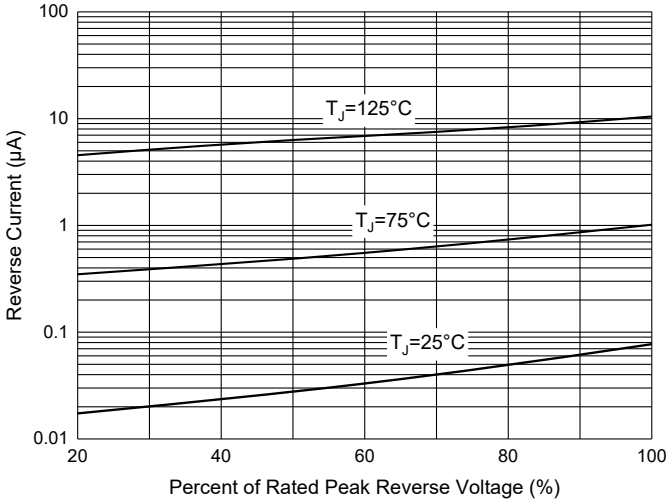
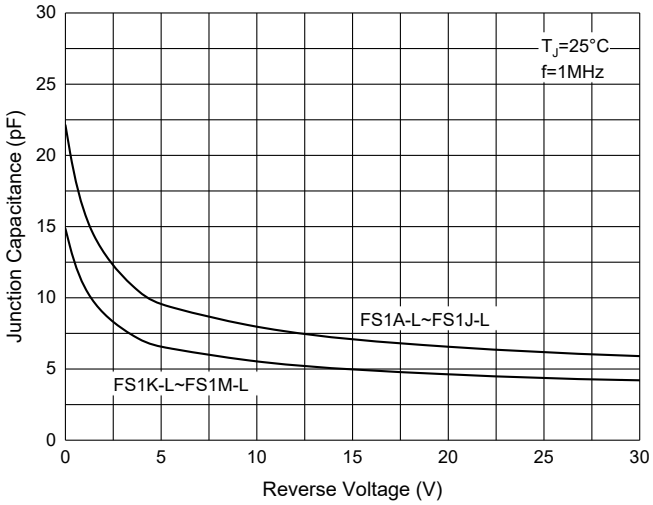


Fig. 6 - Typical Reverse Leakage Characteristics



Curve Characteristics

Fig. 7 - Typical Capacitance Characteristics



Ordering Information

Device	Packing
FS1A-LTP ~ FS1M-LTP	Tape&Reel:5Kpcs/Reel

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