

SDS21WMF

High Voltage Switching Diode

General Description

Dual general-purpose switching diodes, fabricated in planar technology, and packaged in small SOT-23F surface mounted device (SMD) packages.

Features and Benefits

- Silicon epitaxial planar diode
- · High switching speed
- · Low forward drop voltage and low leakage current
- "Green" device and RoHS compliant device
- Available in full lead (Pb)-free device









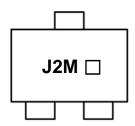
Applications

• Ultra high speed switching application

Ordering Information

Part Number	Marking Code	Package	Packaging
SDS21WMF	J2M □	SOT-23F	Tape & Reel

Marking Information



J2M = Specific Device Code

☐ = Year & Week Code Marking

Pinning Information

Pin	Description	Simplified Outline	Graphic Symbol		
1	Anode (Diode 1)	3			
2	Cathode (Diode 2)				
3	Cathode (Diode 1), Anode (Diode 2)	1 2			

Absolute Maximum Ratings (T_{amb}=25°C, Unless otherwise specified)

Characteristic	Symbol	Ratings	Unit
Maximum repetitive peak reverse voltage	V_{RM}	250	V
Continuous reverse voltage	V_R	200	V
Maximum average forward rectified current	Io	200	mA
Maximum repetitive peak forward current	I _{FM}	400	mA
Non-repetitive peak forward surge current(t=10ms)	I _{FSM}	1.7	Α
Power dissipation 1)	P _D	250	mW

¹⁾ Device mounted on FR-4 board with recommended pad layout.

Thermal Characteristics (T_{amb}=25°C, Unless otherwise specified)

Characteristic	Symbol	Ratings	Unit
Thermal resistance, junction to ambient 1)	$R_{\text{th(j-a)}}$	500	°C/W
Operating junction temperature	Tj	150	°C
Storage temperature range	T _{stg}	-55 ~ 150	°C

¹⁾ Device mounted on FR-4 board with recommended pad layout.

Electrical Characteristics (T_{amb}=25°C, Unless otherwise specified)

Characteristic	Symbol	Test Condition	Min.	Тур.	Max.	Unit
Reverse breakdown voltage	V_{BR}	I _F =100uA	250	-	-	V
Forward drop voltage ²⁾	V _F	I _F =100mA	-	-	1.0	V
	VF	I _F =200mA	-	-	1.25	V
Reverse leakage current 3)		V _R =200V	-	-	100	nA
	I _R	V _R =200V, Ta=150°C	-	-	100	uA
Total capacitance	C _T	V _R =0V, f=1MHz	-	-	5	pF
Reverse recovery time	t _{rr}	$I_F=I_R=30\text{mA},$ $I_{rr}=3\text{mA}, R_L=100\Omega$	-	-	50	ns

²⁾ Pulse test: t_P≤380 µs, Duty cycle≤2%

 $^{^{3)}}$ Pulse test: $t_P \le 5 ms$, Duty cycle $\le 2\%$

Rating and Characteristic Curves

Fig. 1) Typical Forward Characteristics

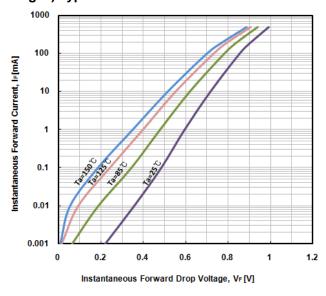


Fig. 2) Typical Reverse Characteristics

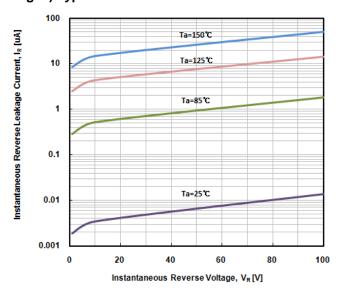


Fig. 3) Typical Total Capacitance Characteristics

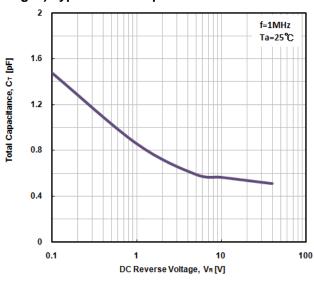


Fig. 4) Power Dissipation vs. Ambient Temperature

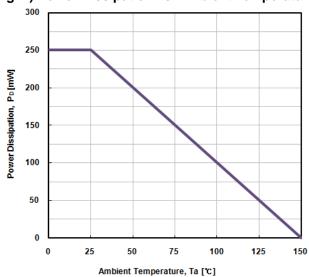
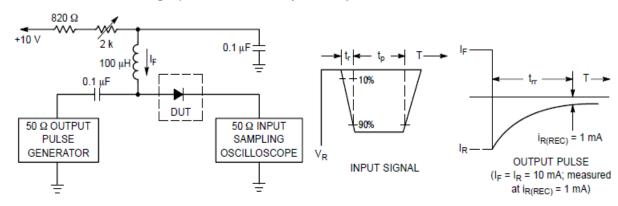
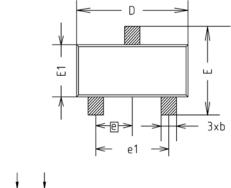
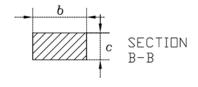


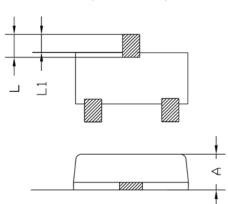
Fig. 5) Reverse recovery time equivalent test circuit

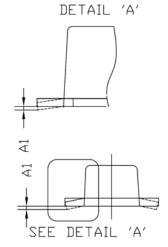


Package Outline Dimensions



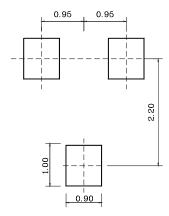






SYMBOL	١	NOTE		
STINDUL	MINIMUM	NOMINAL	MAXIMUM	NUIE
Α	0.80	0.90	1.00	
A1	0.00	-	0.10	
b	0.35	0.40	0.45	
C	0.10	0.15	0.20	
D	2.80	2.90	3.00	
Ε	2.30	2.40	2.50	
E1	1.50	1.60	1.70	
е	0.95BSC			
e1	1.80	1.90	2.00	
L	0.48	0.58	0.68	
L1	0.30	-	0.50	

X Recommend PCB solder land (Unit: mm)



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