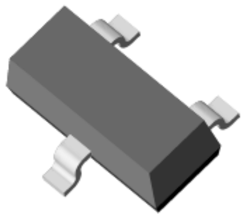
High Voltage Switching Diode

General Description

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



SOT-23F

RoHS

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

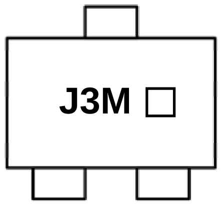
Applications

- Ultra high speed switching application

Ordering Information

Part Number	Marking Code	Package	Packaging
SDS20WMF	**J3M ☐**	**SOT-23F**	**Tape & Reel**

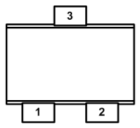
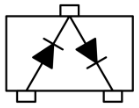
Marking Information



J3M = Specific Device Code

☐ = Year & Week Code Marking

Pinning Information

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

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

Characteristic	Symbol	Ratings	Unit
Maximum repetitive peak reverse voltage	V_{RM}	200	V
Continuous reverse voltage	V_R	150	V
Maximum average forward rectified current	I_O	200	mA
Maximum repetitive peak forward current	I_{FM}	400	mA
Non-repetitive peak forward surge current(t=10ms)	I_{FSM}	1.7	A
Power dissipation [1]	P_D	250	mW

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

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

Characteristic	Symbol	Ratings	Unit
Thermal resistance, junction to ambient [1]	$R_{th(j-a)}$	500	°C/W
Operating junction temperature	T_j	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℃, Unless otherwise specified)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse breakdown voltage	V_{BR}	I_F=100uA	200	-	-	V
Forward drop voltage [2]	V_F	I_F=100mA	-	-	1.0	V
		I_F=200mA	-	-	1.25	V
Reverse leakage current [3]	I_R	V_R=150V	-	-	100	nA
		V_R=150V, Ta=150℃	-	-	100	uA
Total capacitance	C_T	V_R=0V, f=1MHz	-	-	5	pF
Reverse recovery time	t_{rr}	I_F=I_R=30mA, I_{rr}=3mA, R_L=100Ω	-	-	50	ns

[2] Pulse test: $t_P \leq 380$㎲, Duty cycle≤2%

[3] Pulse test: $t_P \leq 5$㎳, Duty cycle≤2%

Rating and Characteristic Curves

Fig. 1) Typical Forward Characteristics

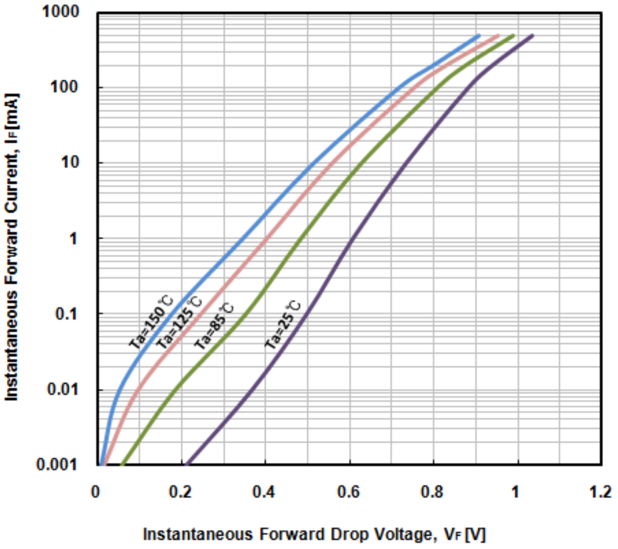


Fig. 2) Typical Reverse Characteristics

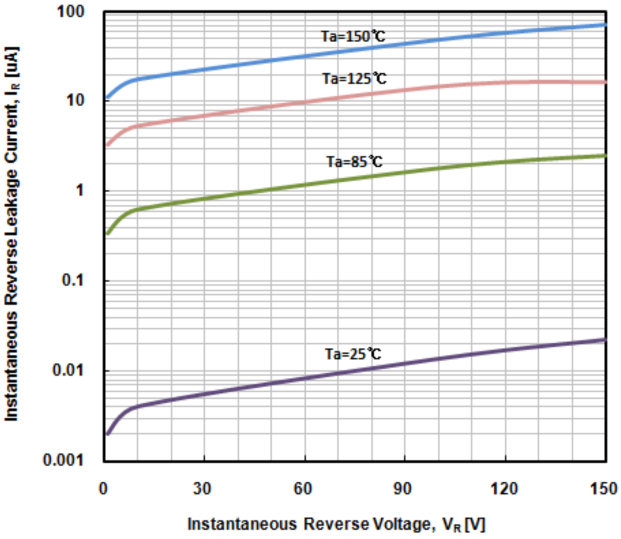


Fig. 3) Typical Total Capacitance Characteristics

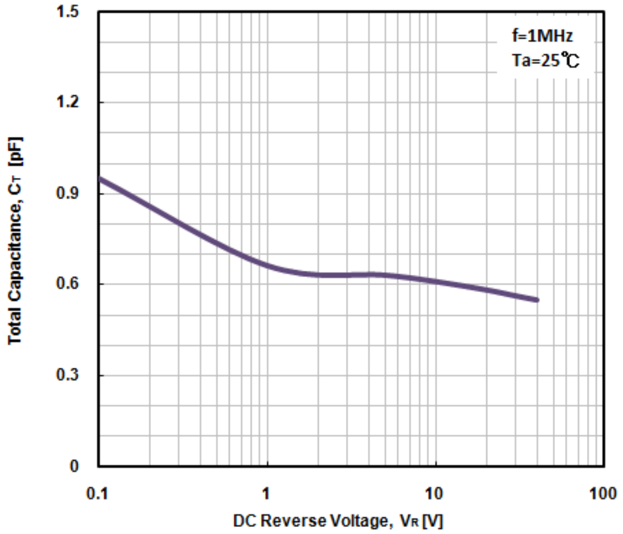


Fig. 4) Power Dissipation vs. Ambient Temperature

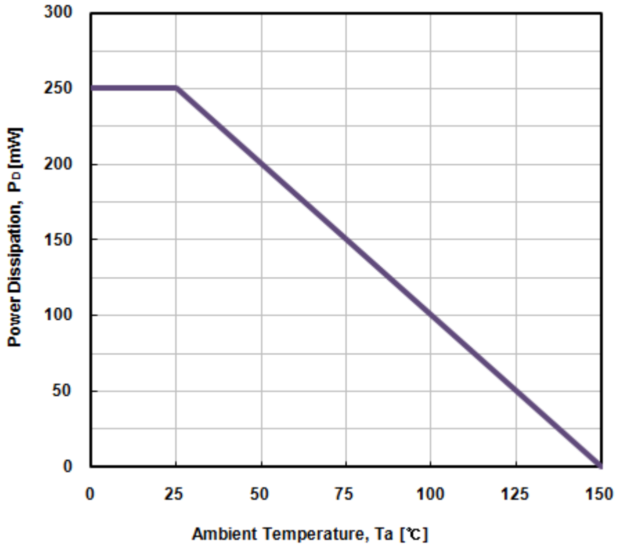
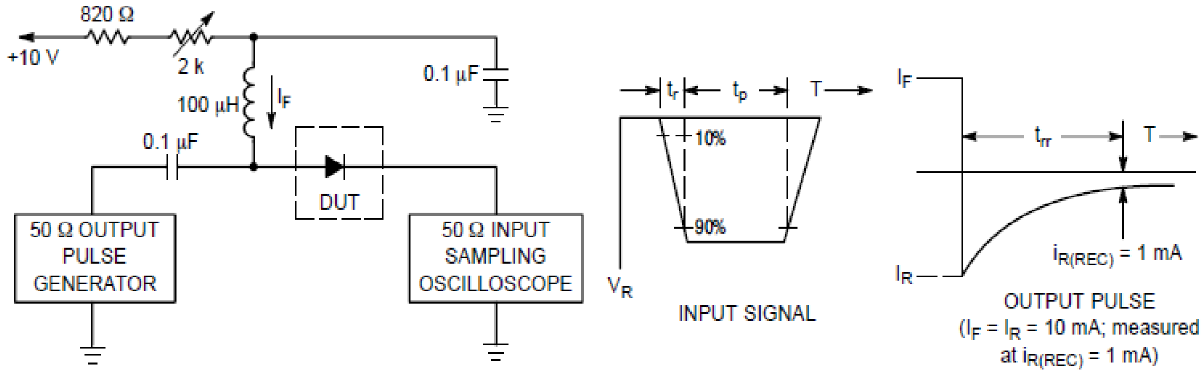
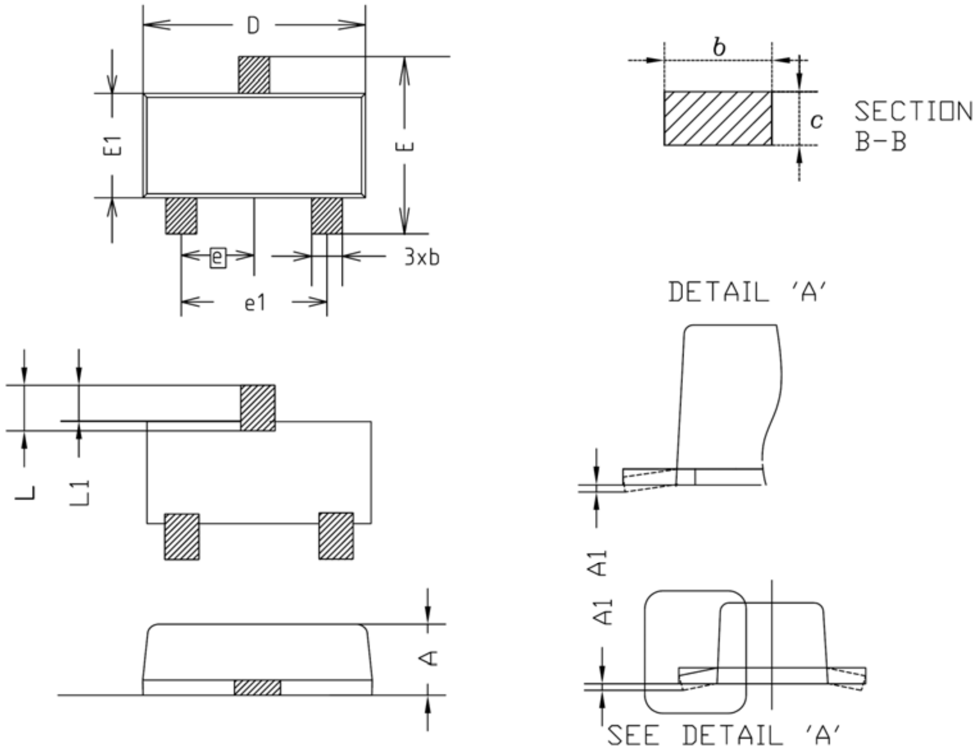
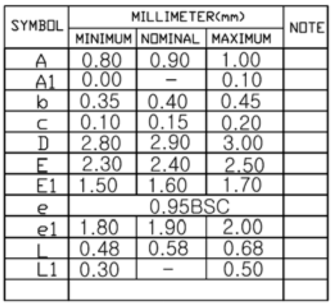


Fig. 5) Reverse recovery time equivalent test circuit



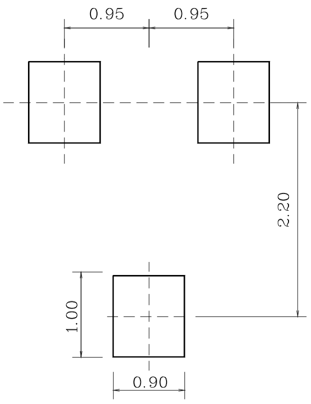
Package Outline Dimensions





SYMBOL	MILLIMETER(mm)			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	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	
E	2.30	2.40	2.50	
E1	1.50	1.60	1.70	
e	0.95BSC			
e1	1.80	1.90	2.00	
L	0.48	0.58	0.68	
L1	0.30	-	0.50	

※ Recommend PCB solder land (Unit : mm)



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