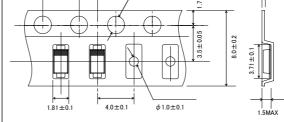
# Super fast recovery diode RF081M2S

#### Series •Dimensions (Unit : mm) •Land size figure (Unit : mm) Standard Fast Recovery $0.1 \pm 0.1$ 0.05 $1.6 \pm 0.1$ 0.85 Applications General rectification 3.05 Features $3.5 \pm 0.2$ $2.6 \pm 0.1$ 0 1) Small power mold type. (PMDU) 0 2) High switching speed. PMDU 3) Low Reverse current Structure 0 Construction $0.9 \pm 0.1$ $0.8 \pm 0.1$ ROHM : PMDU Silicon epitaxial planar JEDEC :SOD-123 Manufacture Date •Taping specifications (Unit : mm) $0.25 \pm 0.05$ .75±0.1 4.0±0.1 2.0±0.05 $\phi 1.55 \pm 0.05$



## ●Absolute maximum ratings (Ta=25°C)

Parameter Symbol		Limits	Unit	Conditions	
Repetitive peak Reverse voltage	V <sub>RM</sub>	200	V		
Reverse voltage	V <sub>R</sub>	200	V	Direct voltage	
Average rectified forward current	lo	0.8 1.0	А	Glass epoxy substrate mounted 50×50mm Glass epoxy substrate mounted	
Forward current surge peak	I <sub>FSM</sub>	15	А	60Hz half sin wave, Non-repetitive one cycle peak value, Tj=25°C	
Junction temperature	Tj	150	°C		
Storage temperature	Tstg	-55 to +150	°C		

## •Electrical characteristic (Ta=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Forward voltage	V <sub>F</sub>	—	0.83	0.95	V	I <sub>F</sub> =0.8A
		—	0.86	0.98		I <sub>F</sub> =1.0A
Reverse current	I <sub>R</sub>	-	0.01	10	μA	V <sub>R</sub> =200V
Reverse recovery time	trr		12	25	ns	I <sub>F</sub> =0.5A,I <sub>R</sub> =1A,Irr=0.25*IR
Thermal Resistance	Rth(j-l)	-	1	20	°C∕W	junction to lead



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**RF081M2S** 

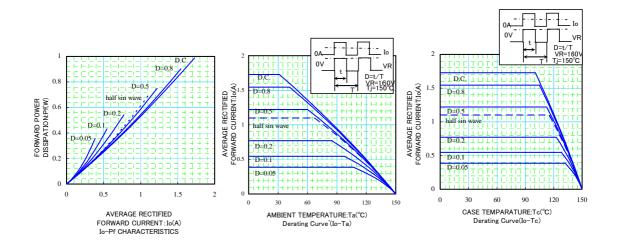
## Diodes

#### Electrical characteristic curves 10000 100 10 Tj=150°C Tj=150°C f=1MHz FORWARD CURRENT:IF(A) CAPACITANCE BETWEEN TERMINALS:Ct(pF) Tj=125°C Tj=125℃ 10 生白白 Tj=25°C 0.1 =25°C 0.01 1 1 10 15 20 25 30 0 5 200 400 600 800 1000 1200 0 100 200 50 150 FORWARD VOLTAGE: VF(mV) REVERSE VOLTAGE: VR(V) VR-IR CHARACTERISTICS REVERSE VOLTAGE:VR(V) VR-Ct CHARACTERISTICS VF-IF CHARACTERISTICS 900 100 60 Tj=25°C IF=1.0A Tj=25°C VR=200V n=20pcs Tj=25℃ f=1MHz FORWARD VOLTAGE:VF(mV) REVERSE CURRENT:IR(nA) CAPACITANCE BETWEEN TERMINALS:Ct(pF) n=20pcs 850 55 VR=0V n=10pcs . Ш. 800 10 50 AVE:51.5pF AVE:818mV AVE:10.8nA 750 45 700 40 VF DISPERSION MAP IR DISPERSION MAP Ct DISPERSION MAP 100 30 1000 Tj=25°C IF=0.5A IR=1A Irr=0.25\*IR n=10pcs RESERVE RECOVERY TIME:trr(ns) PEAK SURGE FORWARD CURRENT: JFSM(A) PEAK SURGE FORWARD CURRENT:IFSM(A) 25 80 8.3ms 20 100 60 1cyc AVE:69.5A 15 40 10 10 AVE:12.2ns 20 5 0 0 1 10 100 trr DISPERSION MAP IFSM DISPERSION MAP NUMBER OF CYCLES IFSM-CYCLE CHARACTERISTICS 1000 1000 30 IM=10m =0.5A THAERMAL IMPEDANCE:Rth (°C/W) 11 THAERMAL IMPEDANCE:Rth (°C/W) No break at 30k\ ELECTROSTATIC DISCHARGE TEST ESD(KV) 25 Rth(j-a Ifsm PEAK SURGE FORWARD CURRENT:IFSM(A) 20 100 Rth(j-c) 15 AVE:13.6kV 10 10 5 0 1 C=200pF R=0Ω C=100pF R=1.5kΩ 10 100 1 0.001 0.01 100 1000 0.1 1 10 TIME:t(ms) IFSM-t CHARACTERISTICS TIME:t(s) Rth-t CHARACTERISTICS ESD DISPERSION MAP

ROHM

## Diodes

# **RF081M2S**





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Appendix1-Rev2.0

