# Fast recovery diode RF051UA1D

# Applications

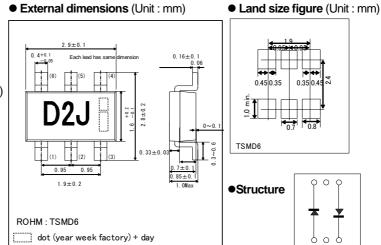
General rectification

## ● Features

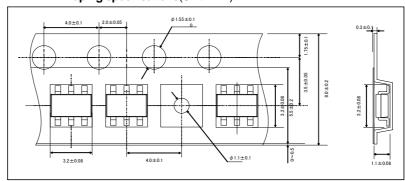
- 1) Small power mold type. (TSMD6)
- 2) Very fast recovery.
- 3) High reliability

#### Construction

Silicon epitaxial planar



Taping specifications(Unit : mm)



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

Parameter	Symbol	Limits	Unit
Reverse voltage (repatitive peak)	$V_{RM}$	100	V
Reverse voltage (DC)	$V_R$	100	V
Average rectified forward current (*1)	lo	0.5	Α
Forward current surge peak (60Hz-1cyc)	I <sub>FSM</sub>	5	Α
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 to +150	°C

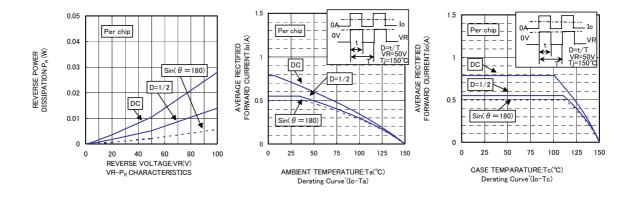
<sup>(\*1)</sup> Rating for a per diode

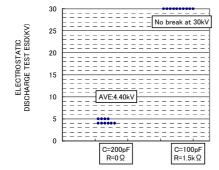
# ●Electrical characteristics (Ta=25°C)

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Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions		
Forward voltage	$V_{F}$	-	-	0.98	V	I <sub>F</sub> =0.5A		
Reverse current	I <sub>R</sub>	-	-	10	μA	V <sub>R</sub> =100V		
Reverse recovery time	trr	-	-	25	ns	I <sub>F</sub> =0.5A,I <sub>R</sub> =1A,Irr=0.25*I <sub>R</sub>		



#### ●Electrical characteristic curves (Ta=25°C) 100000 音声記 REVERSE CURRENTIR(nA) で の の FORWARD CURRENT:IF(A) CAPACITANCE BETWEEN TERMINAL S:Ct(pF) 0.1 0.00 20 40 60 80 100 0 0 200 400 600 800 1000 1200 0 FORWARD VOLTAGE: VF(mV) REVERSE VOLTAGE: VR(V) REVERSE VOLTAGE:VR(V) VF-IF CHARACTERISTICS 910 Ta=25°C 900 Ta=25°C FORWARD VOLTAGE:VF(mV) IF=0.5A VR=100V REVERSE CURRENT:IR(nA) 900 800 f=1MHz CAPACITANCE BETWEEN TERMINALS:Ct(pF) 700 n=10pcs 890 600 500 400 300 AVE:3.13pF 100 860 VF DISPERSION MAP IR DISPERSION MAP Ct DISPERSION MAP 1000 Ta=25°C IF=0.5A IR=1A RESERVE RECOVERY TIME:tm(ns) PEAK SURGE FORWARD CURRENT:IFSM(A) PEAK SURGE FORWARD CURRENT:IFSM(A) rr=0.25\*IR 20 8.3ms 8.3ms 30 15 10 5 AVE:11.6A 10 100 trr DISPERSION MAP IFSM DISRESION MAP NUMBER OF CYCLES IFSM-CYCLE CHARACTERISTICS 1000 1000 Per chip TRANSIENT THAERMAL IMPEDANCE:Rth (°C/W) 0.8 DC PEAK SURGE FORWARD CURRENT:IFSM(A) D=1/2 100 100 FORWARD POWER DISSIPATION:Pf(W) 0.6 $Sin(\theta = 180)$ 0.4 10 0.2 0 10 TIME:t(ms) 1 1 TIME:t(s) 0 0.5 AVERAGE RECTIFIED Rth-t CHARACTERISTICS IFSM-t CHARACTERISTICS FORWARD CURRENT: Io(A) Io-Pf CHARACTERISTICS





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