Rectifier diode

1SR156-400

●**Applications**

For fast rectifier

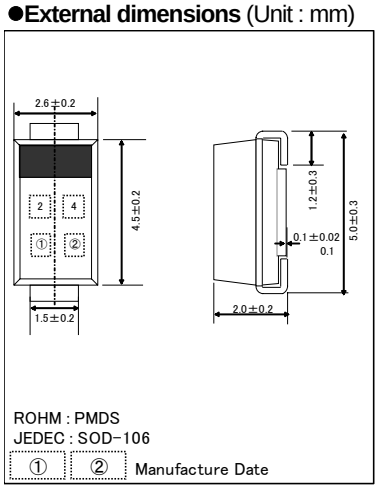
●**Features**

1) Small power mold type. (PMDS)
2) High reliability.
3) High switching speed.

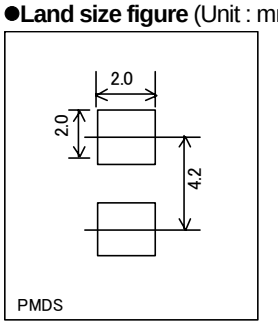
●**Construction**

Silicon diffused junction

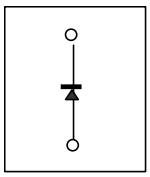
●**External dimensions** (Unit : mm)



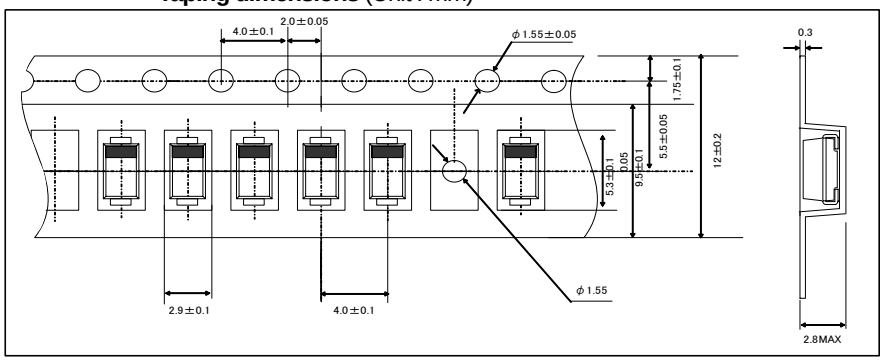
●**Land size figure** (Unit : mm)



●**Structure**



●**Taping dimensions** (Unit : mm)



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

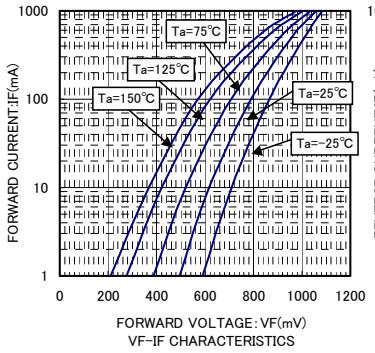
Parameter	Symbol	Limits	Unit
Reverse voltage (repetitive peak)	V_{RMS}	500	V
Reverse voltage (DC)	V_R	400	V
Average rectified forward current (*1)	Io	1	A
Forward current surge peak（60Hz･1cyc）	I_{FSM}	20	A
Junction temperature	Tj	150	℃
Storage temperature	Tstg	-55 to +150	℃

(*1) Mounting on alumina board

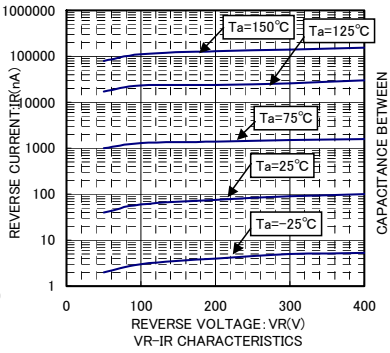
●**Electrical characteristics** (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Forward voltage	V_F	-	-	1.3	V	I_F=0.8A
Reverse current	I_R	-	-	10	uA	V_R=400V
Reverse recovery time	trr	-	-	0.4	us	I_F=10mA,I_R=10mA,Irr=1mA

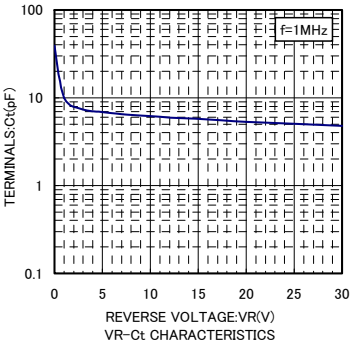
●Electrical characteristic curves (Ta=25°C)



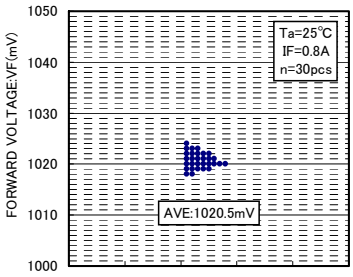
VF-IF CHARACTERISTICS



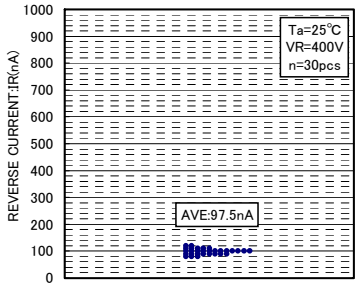
VR-IR CHARACTERISTICS



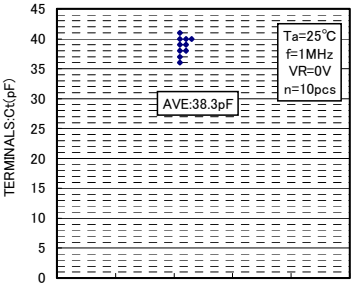
VR-Ct CHARACTERISTICS



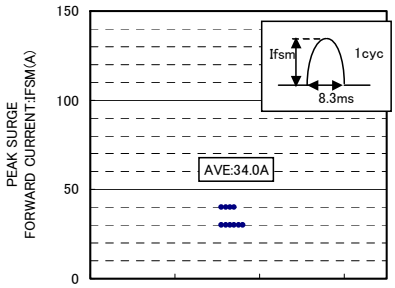
VF DISPERSION MAP



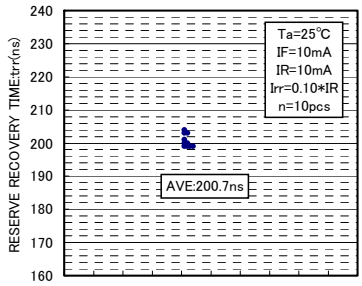
IR DISPERSION MAP



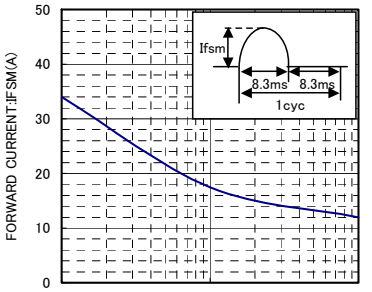
Ct DISPERSION MAP



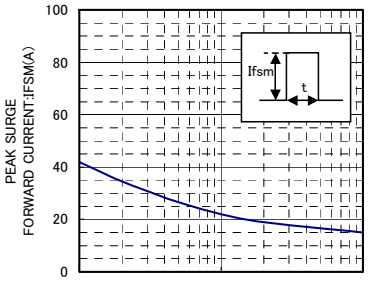
IFSM DISRESION MAP



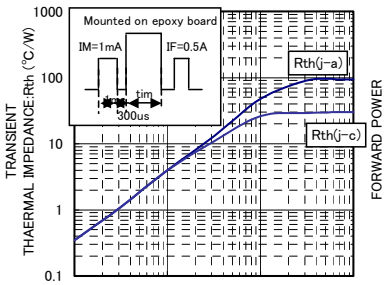
trr DISPERSION MAP



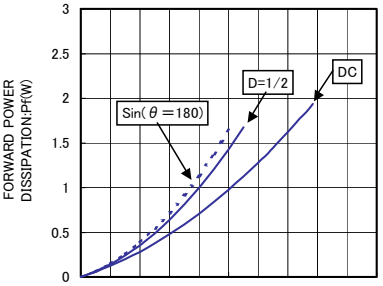
IFSM-CYCLE CHARACTERISTICS



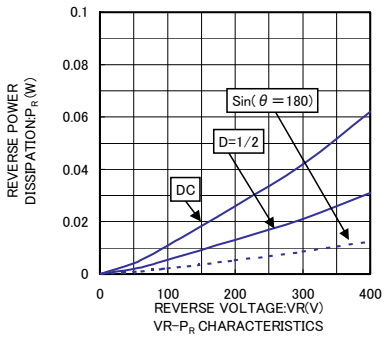
IFSM-t CHARACTERISTICS

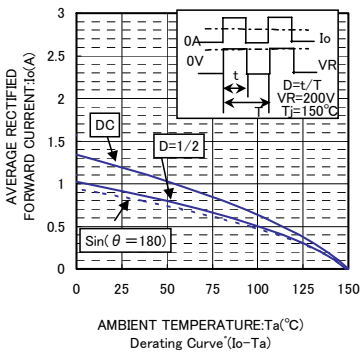


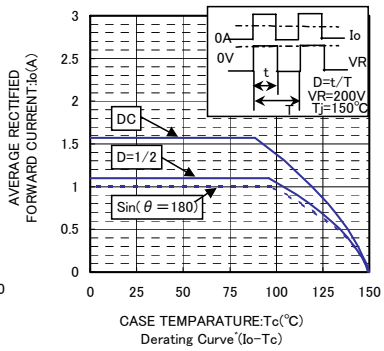
Rth-t CHARACTERISTICS

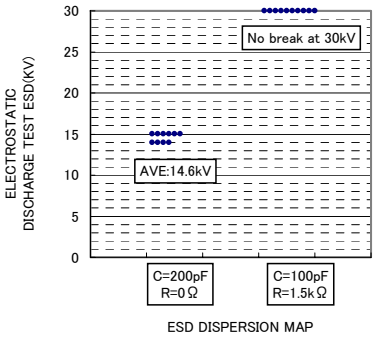


Io-Pf CHARACTERISTICS


REVERSE POWER DISSIPATION:P_R(W)
0.1
0.08
0.06
0.04
0.02
0
Sin(θ=180)
D=1/2
DC
0
100
200
300
400
REVERSE VOLTAGE:VR(V)
$VR-P_R$ CHARACTERISTICS


AVERAGE RECTIFIED FORWARD CURRENT:Io(A)
3
2.5
2
1.5
1
0.5
0
0A
0V
Io
VR
t
T
D=t/T
VR=200V
Tj=150°C
DC
D=1/2
Sin(θ=180)
0
25
50
75
100
125
150
AMBIENT TEMPERATURE:Ta(°C)
Derating Curve(Io-Ta)


AVERAGE RECTIFIED FORWARD CURRENT:Io(A)
3
2.5
2
1.5
1
0.5
0
0A
0V
Io
VR
t
T
D=t/T
VR=200V
Tj=150°C
DC
D=1/2
Sin(θ=180)
0
25
50
75
100
125
150
CASE TEMPARATURE:Tc(°C)
Derating Curve(Io-Tc)


ELECTROSTATIC DISCHARGE TEST ESD(KV)
30
25
20
15
10
5
0
No break at 30kV
AVE:14.6kV
C=200pF
R=0Ω
C=100pF
R=1.5kΩ
ESD DISPERSION MAP

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