# Schottky barrier diode

## RB050LA-40

●**Applications**

General rectification

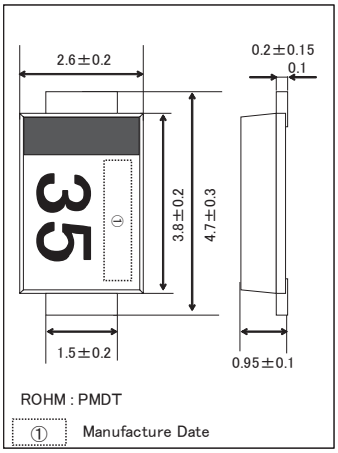
●**Features**

1) Small power mold type (PMDT)
2) Low $I_R$
3) High reliability

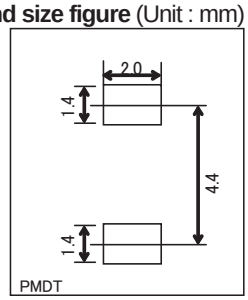
●**Structure**

Silicon epitaxial planer

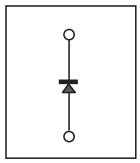
●**External dimensions** (Unit : mm)



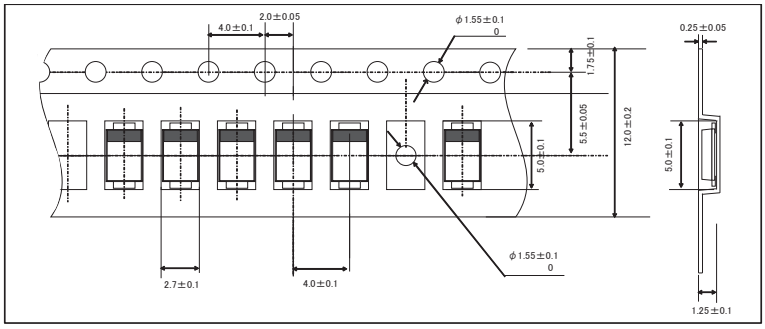

●**Land size figure** (Unit : mm)




●**Structure**



●**Taping dimensions** (Unit : mm)




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

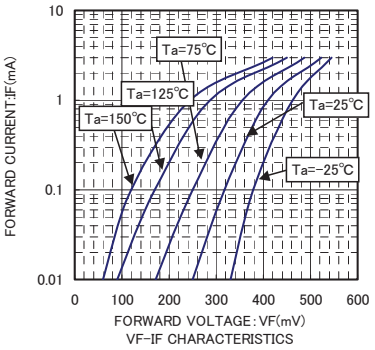
| Parameter | Symbol | Limits | Unit |
|---|---|---|---|
| Reverse voltage (repetitive peak) | $V_{RM}$ | 40 | V |
| Reverse voltage (DC) | $V_R$ | 40 | V |
| Average rectified forward current | Io | 3 | A |
| Forward current surge peak (60Hz・1cyc) | $I_{FSM}$ | 70 | A |
| Junction temperature | Tj | 150 | ℃ |
| Storage temperature | Tstg | -55 to +150 | ℃ |

(*1)Mounted on epoxy board. 180°Half sine wave

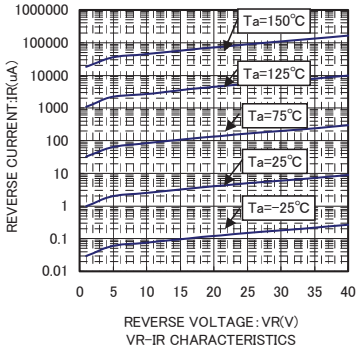
●**Electrical characteristic** (Ta=25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|---|---|---|---|---|---|---|
| Forward voltage | $V_F1$ | - | - | 0.50 | V | $I_F$=1.5A |
| | $V_F2$ | - | - | 0.55 | V | $I_F$=3.0A |
| Reverse current | $I_R$ | - | - | 0.1 | mA | $V_R$=40V |

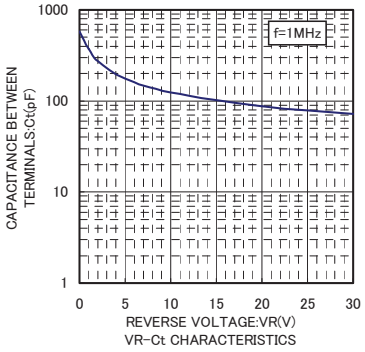
## ●Electrical characteristic curves



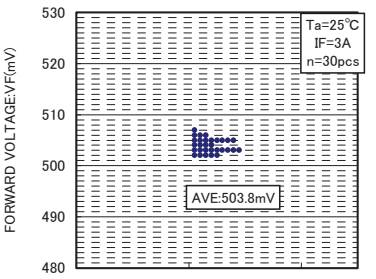

VF-IF CHARACTERISTICS



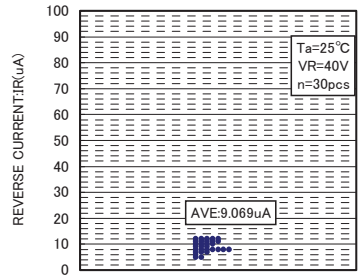

VR-IR CHARACTERISTICS



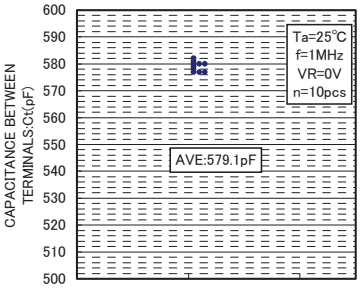

VR-Ct CHARACTERISTICS



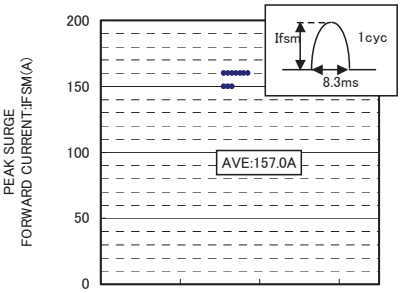

VF DISPERSION MAP



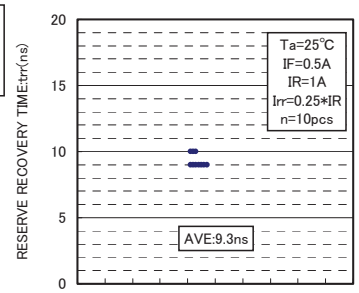

IR DISPERSION MAP



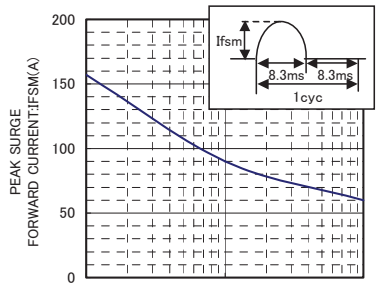

Ct DISPERSION MAP



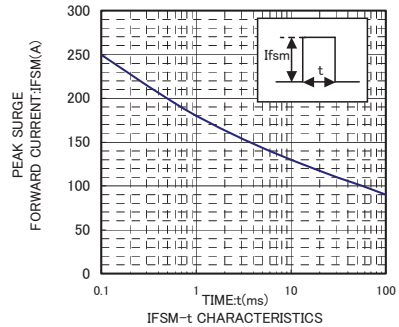

IFSM DISRESION MAP



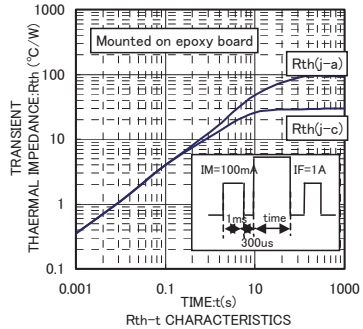

trr DISPERSION MAP



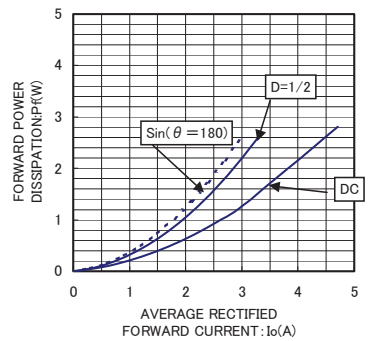

IFSM-CYCLE CHARACTERISTICS



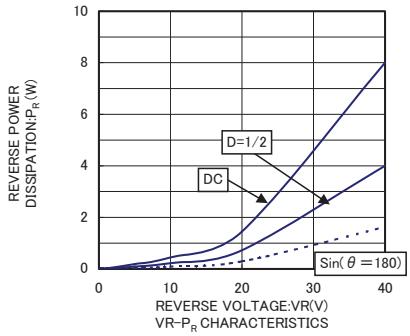

IFSM-t CHARACTERISTICS

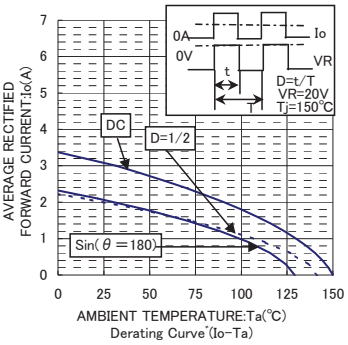


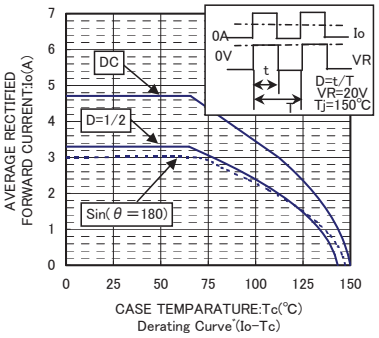

Rth-t CHARACTERISTICS

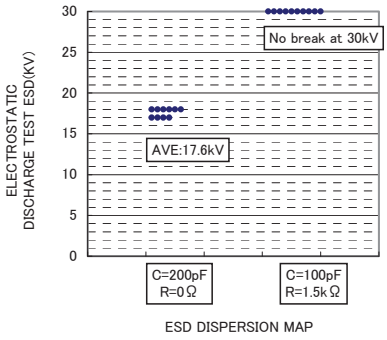



Io-Pf CHARACTERISTICS


REVERSE POWER DISSIPATION:$P_R$(W)
D=1/2
DC
Sin(θ=180)
REVERSE VOLTAGE:VR(V)
VR-$P_R$ CHARACTERISTICS


AVERAGE RECTIFIED FORWARD CURRENT:Io(A)
0A
0V
Io
VR
t
T
D=t/T
VR=20V
Tj=150℃
DC
D=1/2
Sin(θ=180)
AMBIENT TEMPERATURE:Ta(℃)
Derating Curve(Io-Ta)


AVERAGE RECTIFIED FORWARD CURRENT:Io(A)
0A
0V
Io
VR
t
T
D=t/T
VR=20V
Tj=150℃
DC
D=1/2
Sin(θ=180)
CASE TEMPARATURE:Tc(℃)
Derating Curve(Io-Tc)


ELECTROSTATIC DISCHARGE TEST ESD(KV)
No break at 30kV
AVE:17.6kV
C=200pF
R=0Ω
C=100pF
R=1.5kΩ
ESD DISPERSION MAP

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