ROHM SEMICONDUCTOR

Data Sheet

Super Fast Recovery Diode

RFN10B3S

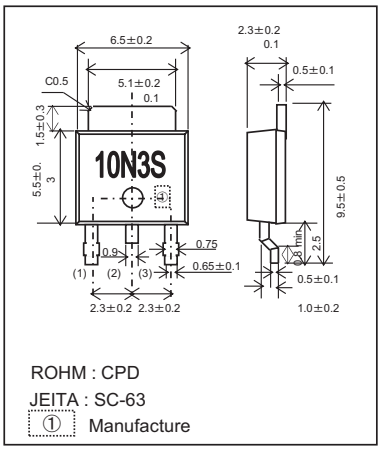
●**Serise**
Standard Fast Recovery

●**Applications**
General rectification

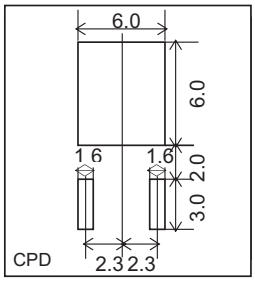
●**Features**
1)Power mold type(CPD)
2)Low switching loss
3)High current overload capacity

●**Construction**
Silicon epitaxial planer type

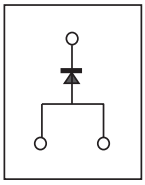
●**Dimensions**(Unit : mm)



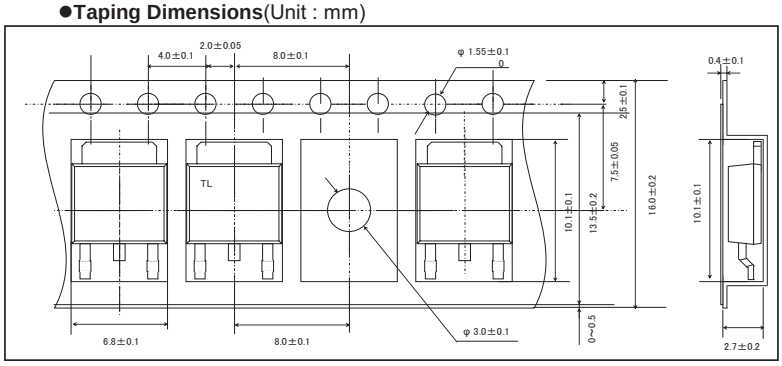
●**Land Size Figure**(Unit : mm)



●**Structure**



●**Taping Dimensions**(Unit : mm)



●**Absolute Maximum Ratings**(Tc=25°C)

Parameter	Symbol	Conditions		Limits	Unit
Repetitive peak reverse voltage	V_{RM}	Duty≦0.5		350	V
Reverse voltage	V_R	Direct voltage		350	V
Average rectified foward current	Io	60Hz half sin wave , Resistive load	Tc=34°C	10	A
Forward current surge peak	I_{FSM}	60Hz half sin wave , Non-repetitive at Tj=25°C (*1)		80	A
Junction temperature	Tj			150	°C
Storage temperature	Tstg			−55 to +150	°C

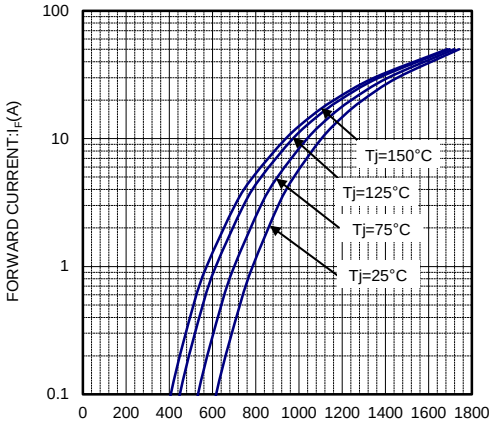
(*1) 1-3pin common circuit

●**Electrical Characteristics**(Tj=25°C)

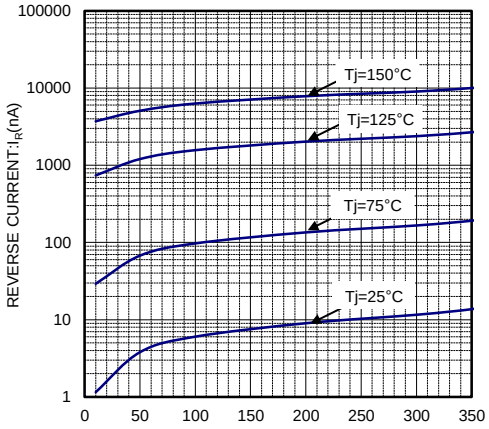
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward voltage	V_F	I_F=10A	−	1.1	1.5	V
Reverse current	I_R	V_R=350V	−	0.05	10	μA
Reverse recovery time	trr	I_F=0.5A,I_R=1A,Irr=0.25×I_R	−	20	30	ns
Thermal resistance	Rth(j-c)	Junction to case	−	−	6.0	°C/W

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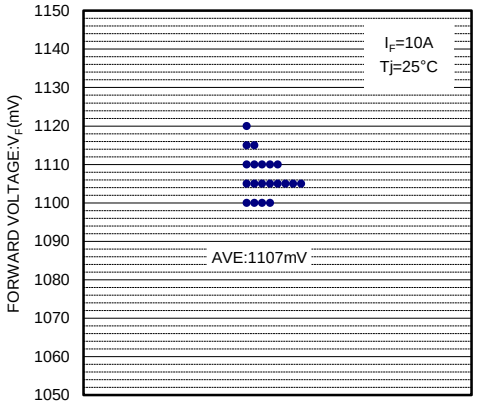
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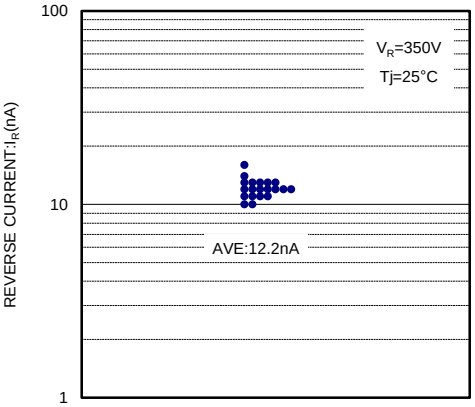
FORWARD VOLTAGE:V_F(mV)
V_F-I_F CHARACTERISTICS



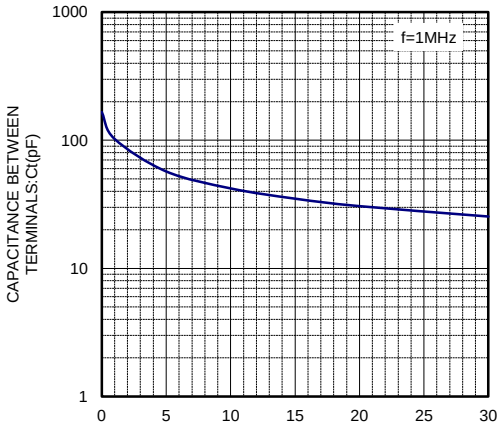
REVERSE VOLTAGE:V_R(V)
V_R-I_R CHARACTERISTICS



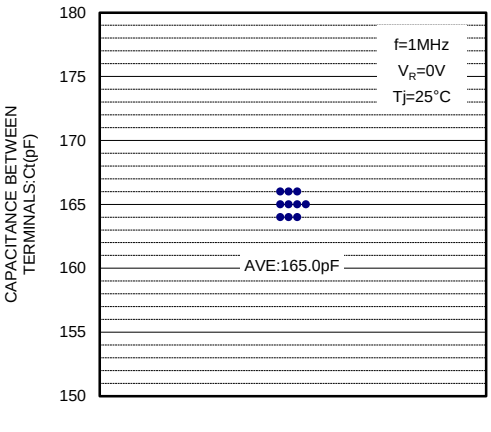
V_F DISPERSION MAP



I_R DISPERSION MAP



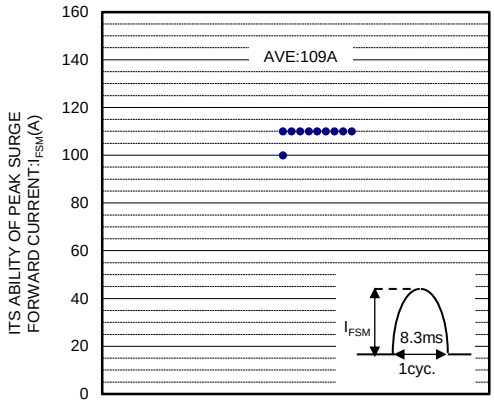
REVERSE VOLTAGE:V_R(V)
V_R-Ct CHARACTERISTICS



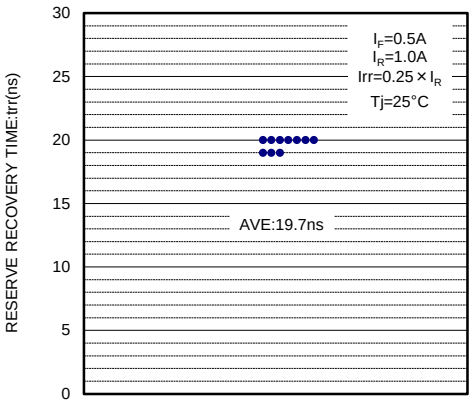
Ct DISPERSION MAP

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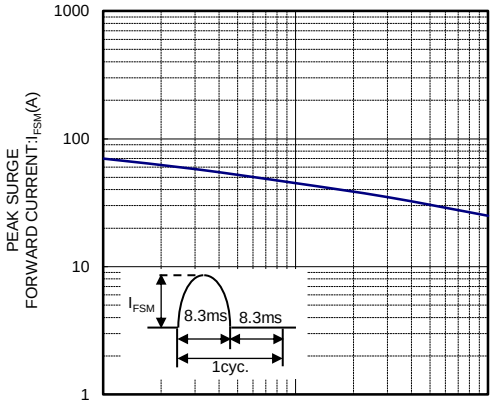
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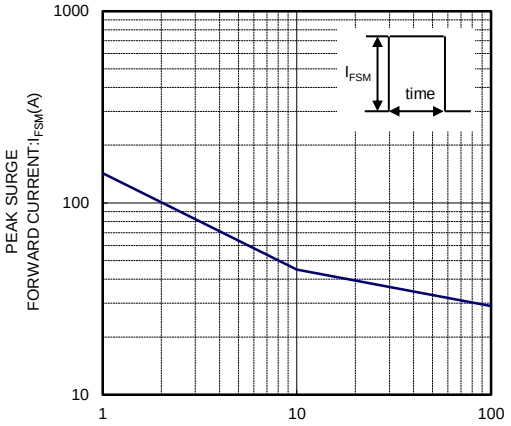
I_{FSM} DISPERSION MAP



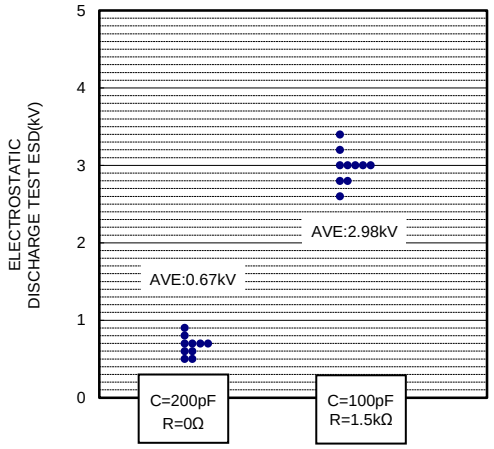
trr DISPERSION MAP



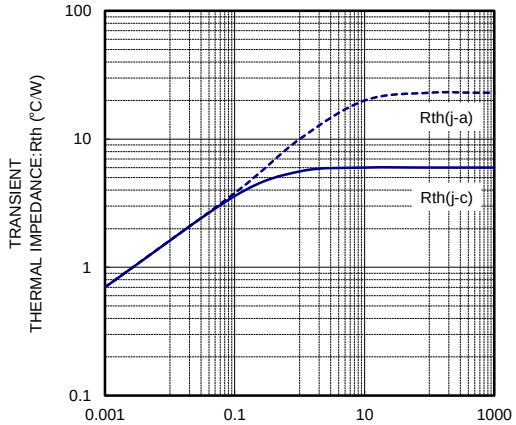
NUMBER OF CYCLES
I_{FSM}-CYCLE CHARACTERISTICS



TIME:t(ms)
I_{FSM}-t CHARACTERISTICS



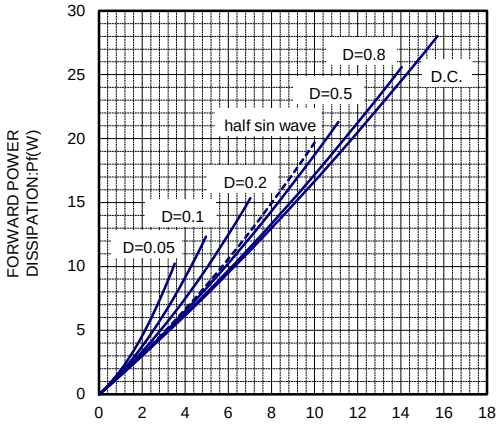
ESD DISPERSION MAP



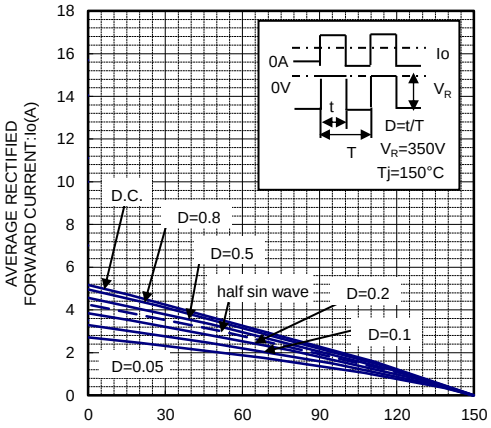
TIME:t(s)
Rth-t CHARACTERISTICS

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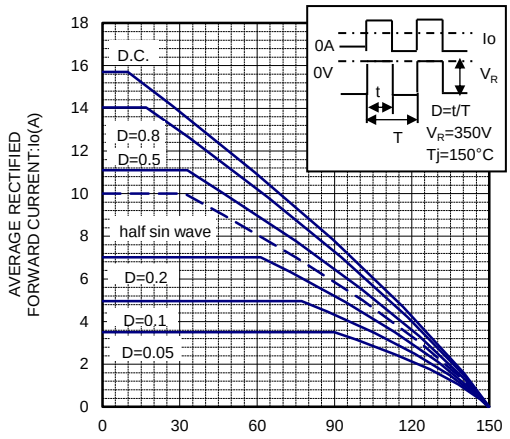
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AVERAGE RECTIFIED FORWARD CURRENT:Io(A)
Io-Pf CHARACTERISTICS



AMBIENT TEMPERATURE:Ta(°C)
DERATING CURVE(Io-Ta)



CASE TEMPARATURE:Tc(°C)
DERATING CURVE(Io-Tc)

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