

# Super Fast Recovery Diode

**RFN20NS4S**

● Serise

### Standard Fast Recovery

## ●Applications

## General rectification

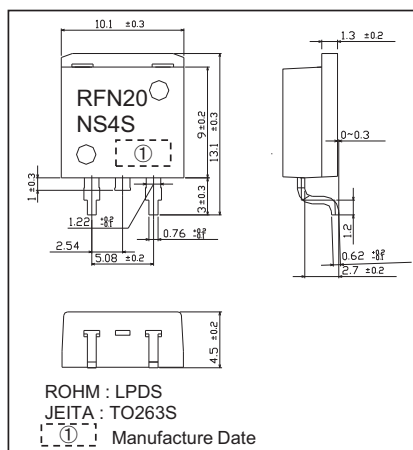
## ●Features

- 1)Low switching loss
- 2)High current overload capacity

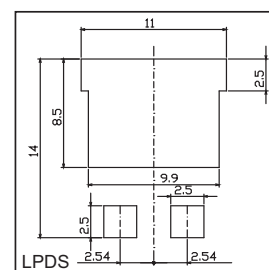
## ●Construction

Silicon epitaxial planer type

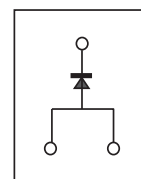
●Dimensions(Unit : mm)



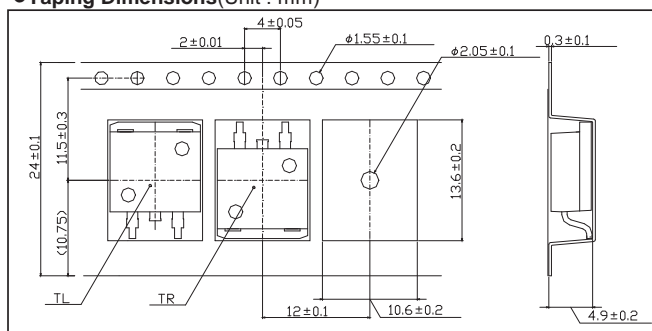
●Land Size Figure(Unit : mm)



- **Structure**



●Taping Dimensions(Unit : mm)



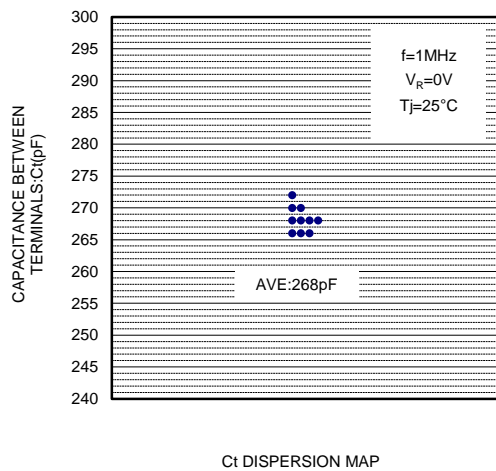
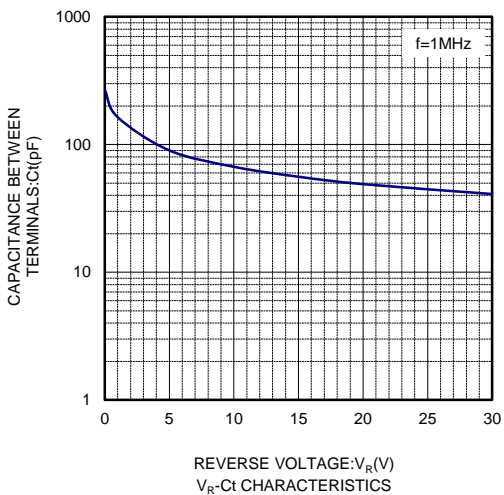
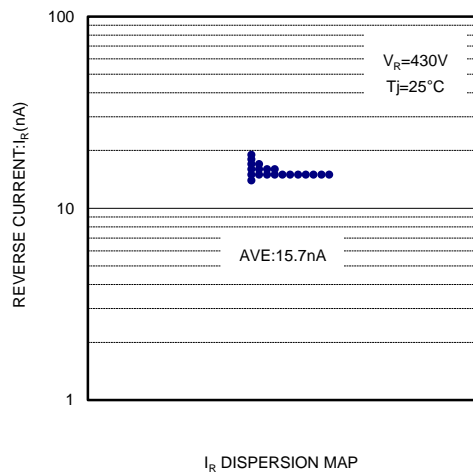
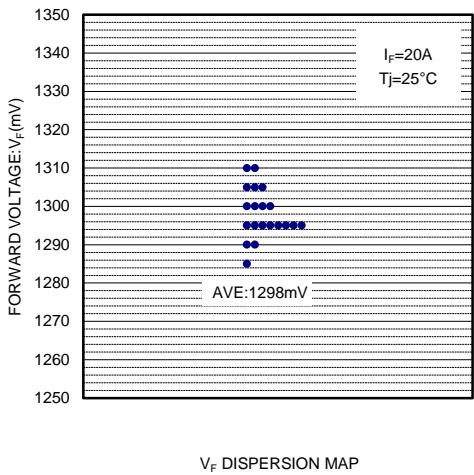
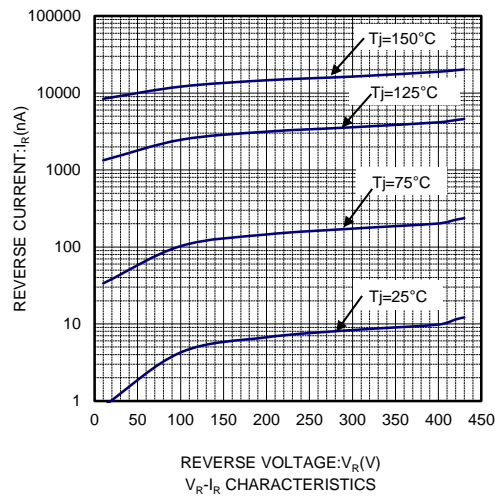
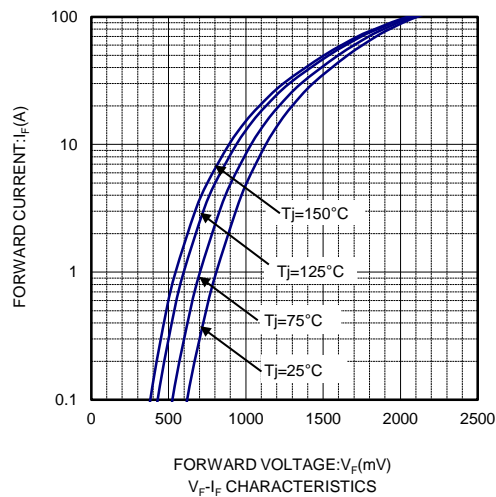
●Absolute Maximum Ratings(Tc=25°C)

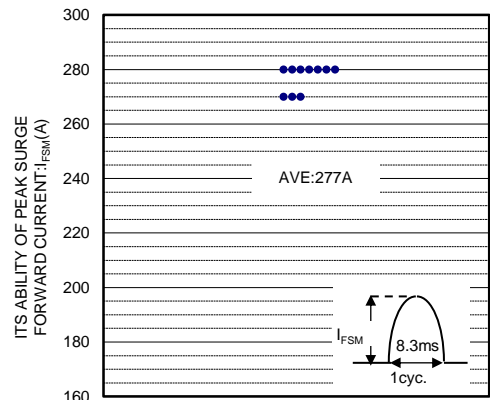
Parameter	Symbol	Conditions		Limits	Unit
Repetitive peak reverse voltage	$V_{RM}$	Duty $\leq 0.5$		430	V
Reverse voltage	$V_R$	Direct voltage		430	V
Average rectified foward current	$I_o$	60Hz half sin wave , Resistive load	$T_c=30^{\circ}C$	20	A
Forward current surge peak	$I_{FSM}$	60Hz half sin wave , Non-repetitive at $T_j=25^{\circ}C$ <sup>(*)</sup>		100	A
Junction temperature	$T_j$			150	$^{\circ}C$
Storage temperature	$T_{stg}$			-55 to + 150	$^{\circ}C$

(\*1) 1-3pin common circuit

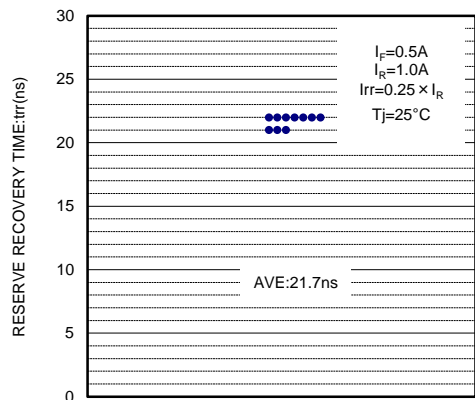
### ●Electrical Characteristics(Tj=25°C)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward voltage	$V_F$	$I_F=20A$	—	1.3	1.55	V
Reverse current	$I_R$	$V_R=430V$	—	0.05	10	$\mu A$
Reverse recovery time	$t_{rr}$	$I_F=0.5A, I_R=1A, I_{rr}=0.25 \times I_R$	—	22	30	ns
Thermal resistance	$R_{th}(j-c)$	Junction to case	—	—	3.0	$^{\circ}C/W$

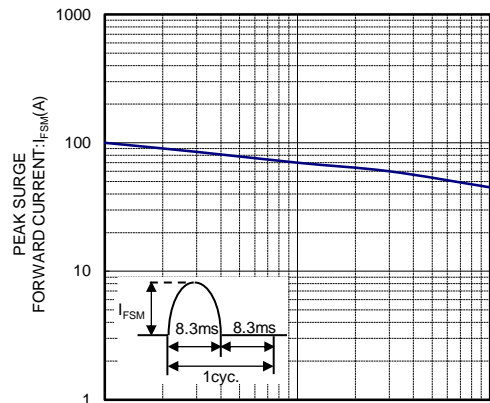




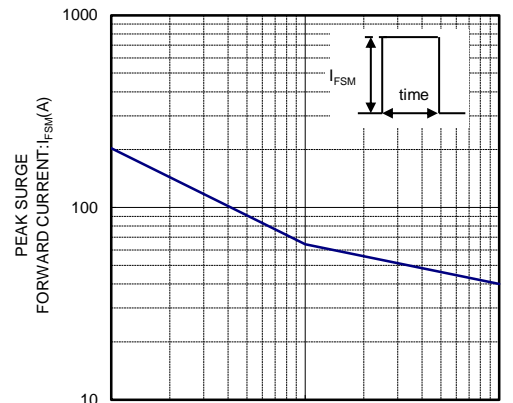
I<sub>FSM</sub> DISPERSION MAP



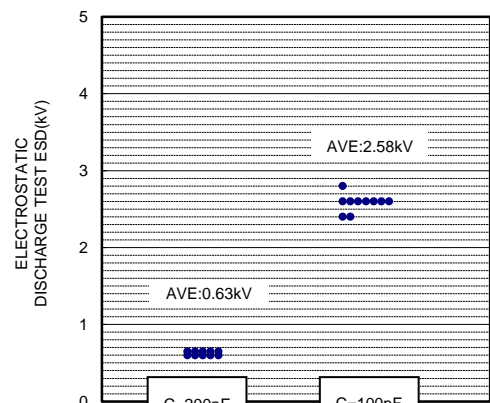
trr DISPERSION MAP



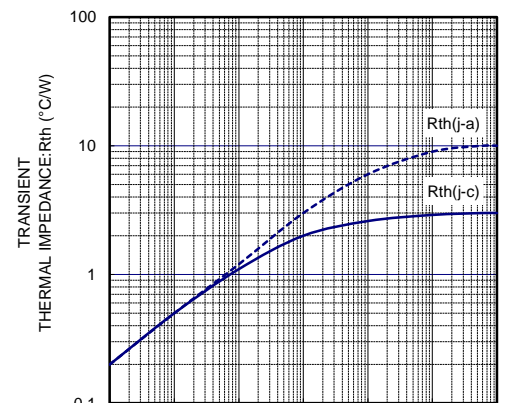
NUMBER OF CYCLES  
I<sub>FSM</sub>-CYCLE CHARACTERISTICS



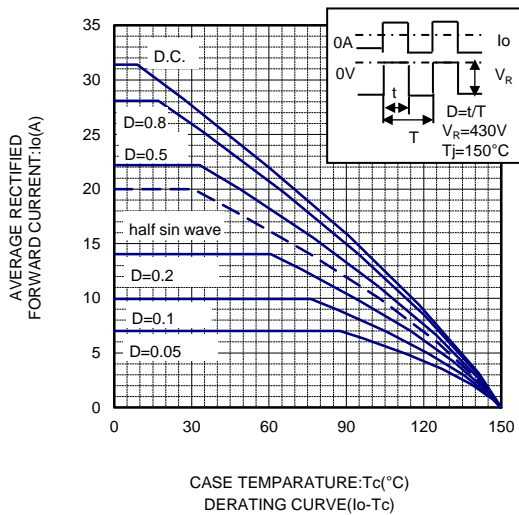
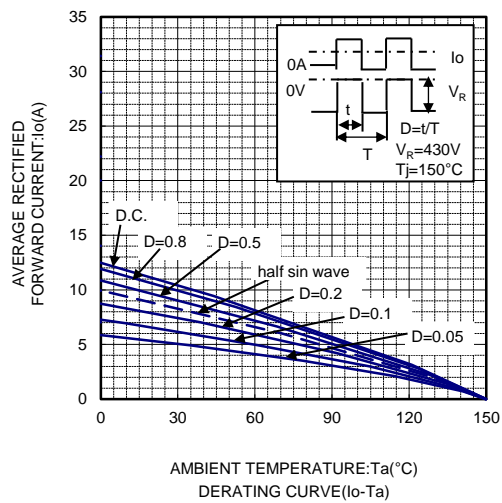
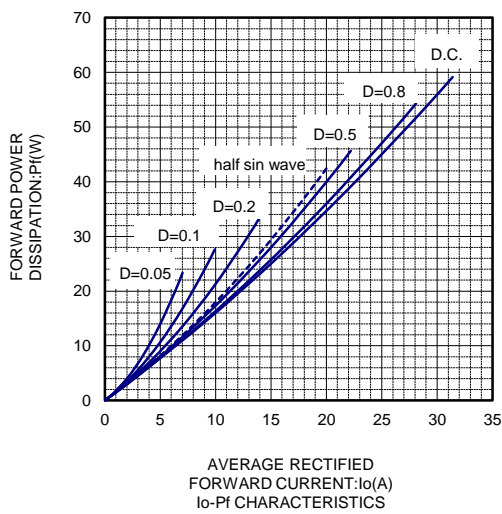
TIME:t(ms)  
I<sub>FSM</sub>-t CHARACTERISTICS



ESD DISPERSION MAP



TIME:t(s)  
Rth-t CHARACTERISTICS



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