

# Super Fast Recovery Diode

## RFN20NS6S

● **Series**

Standard Fast Recovery

● **Applications**

General rectification

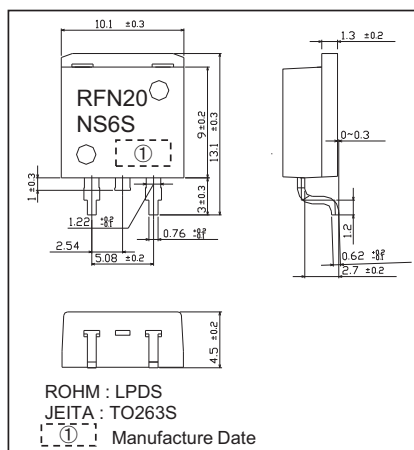
● **Features**

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

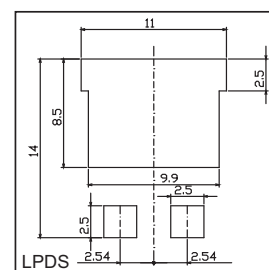
● **Construction**

Silicon epitaxial planer type

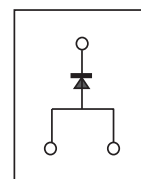
● **Dimensions (Unit : mm)**



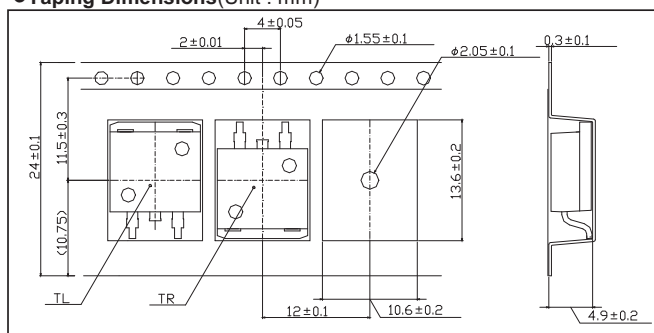
● **Land Size Figure (Unit : mm)**



● **Structure**



● **Taping Dimensions (Unit : mm)**



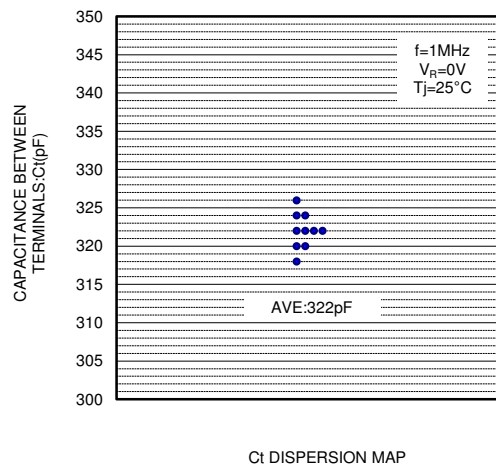
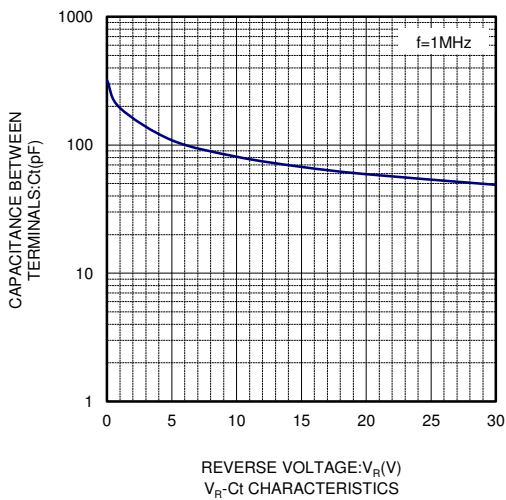
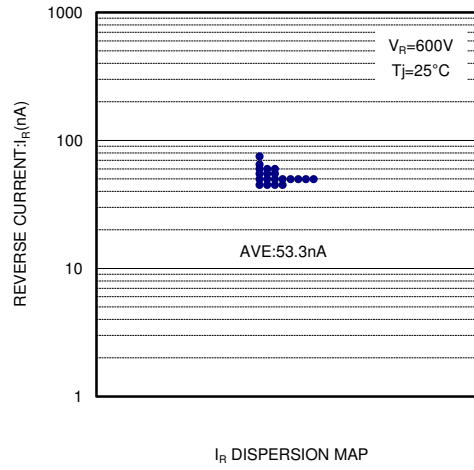
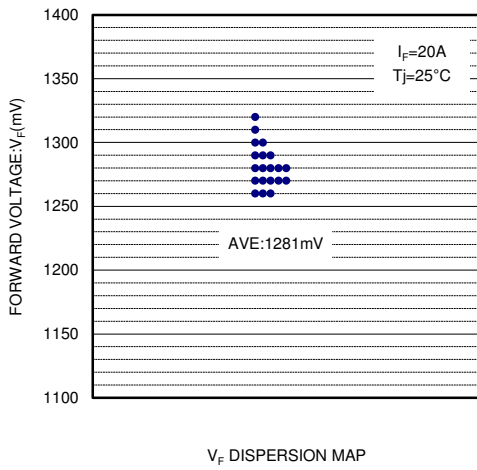
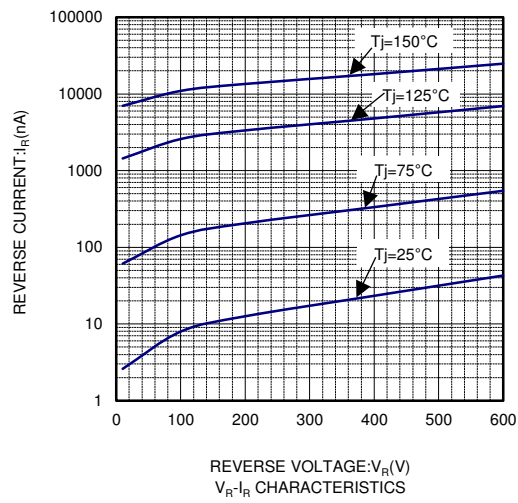
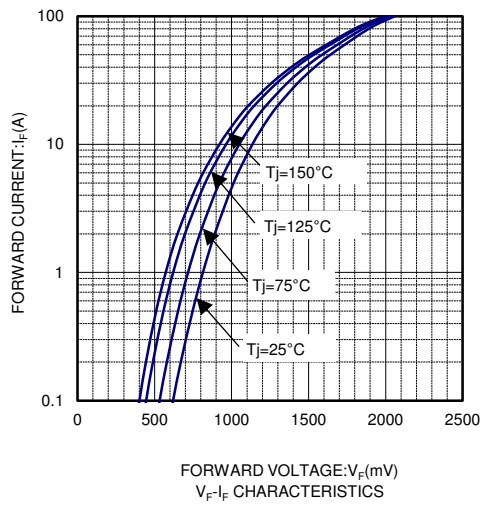
● **Absolute Maximum Ratings (Tc=25°C)**

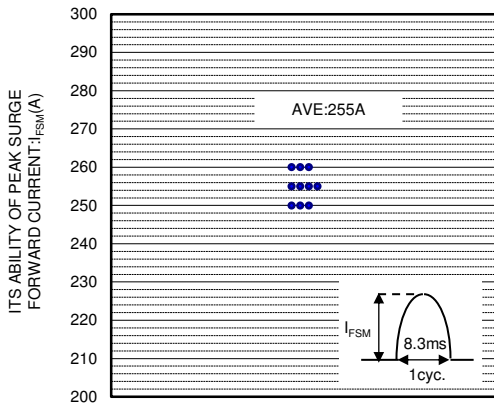
Parameter	Symbol	Conditions	Limits	Unit
Repetitive peak reverse voltage	$V_{RM}$	Duty $\leq 0.5$	600	V
Reverse voltage	$V_R$	Direct voltage	600	V
Average rectified forward current	$I_o$	60Hz half sin wave , Resistive load   Tc=47°C	20	A
Forward current surge peak	$I_{FSM}$	60Hz half sin wave , Non-repetitive at Tj=25°C (*)	100	A
Junction temperature	Tj		150	°C
Storage temperature	Tstg		-55 to +150	°C

(\*) 1-3pin common circuit

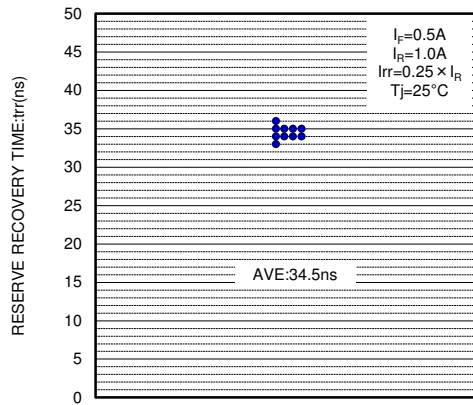
● **Electrical Characteristics (Tj=25°C)**

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward voltage	$V_F$	$I_F=20A$	—	1.25	1.55	V
Reverse current	$I_R$	$V_R=600V$	—	0.05	10	$\mu A$
Reverse recovery time	trr	$I_F=0.5A, I_R=1A, I_{rr}=0.25 \times I_R$	—	40	60	ns
Thermal resistance	Rth(j-c)	Junction to case	—	—	2.5	°C/W

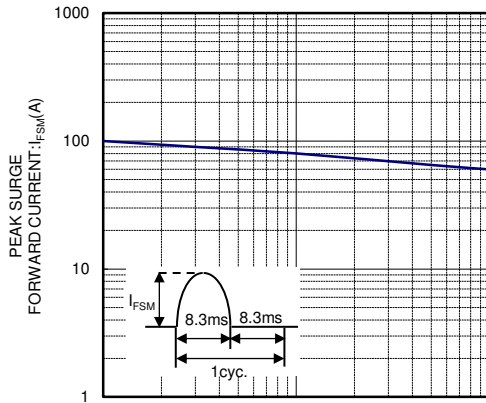




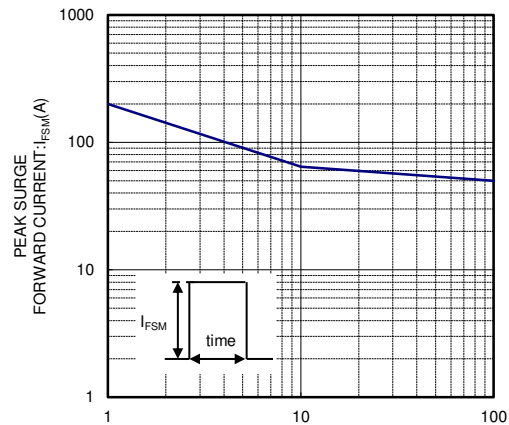
$I_{FSM}$  DISPERSION MAP



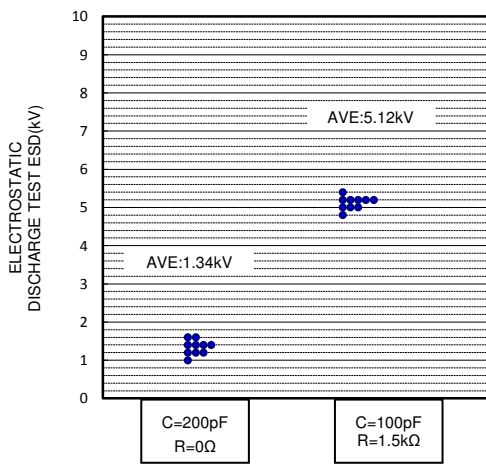
$t_{rr}$  DISPERSION MAP



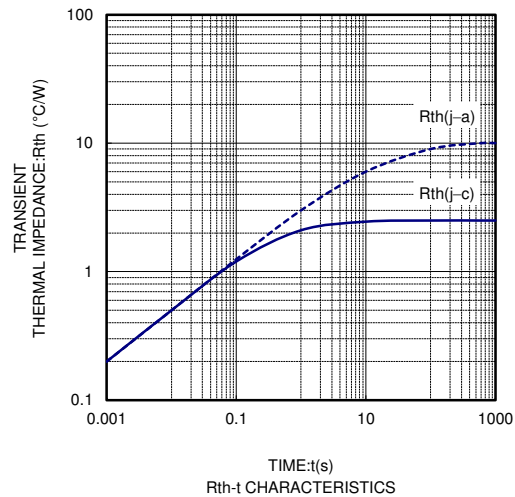
NUMBER OF CYCLES  
 $I_{FSM}$ -CYCLE CHARACTERISTICS



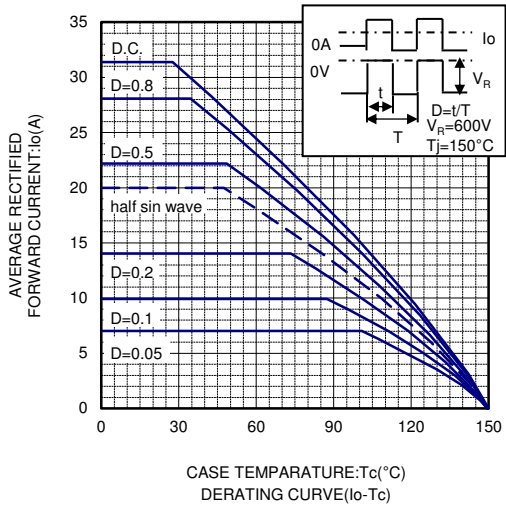
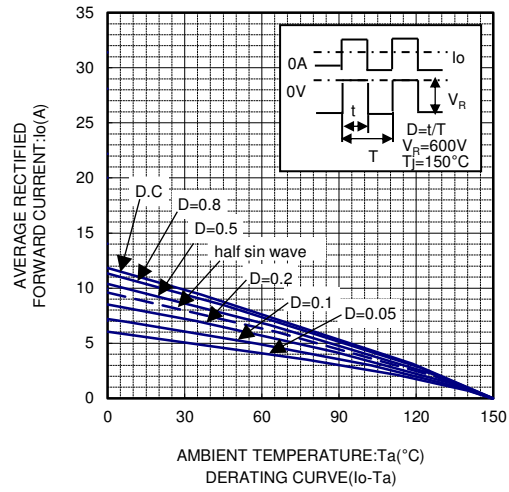
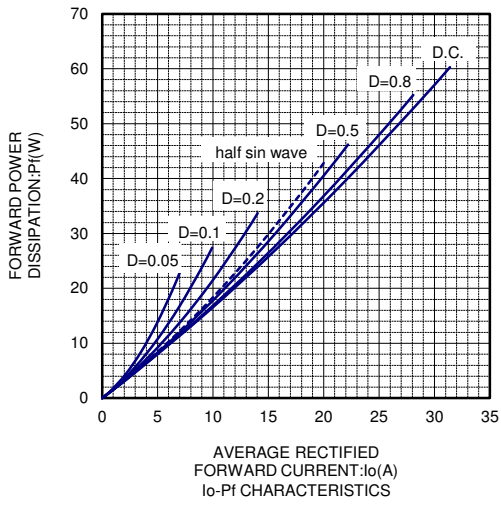
TIME:t(ms)  
 $I_{FSM}$ -t CHARACTERISTICS



ESD DISPERSION MAP



TIME:t(s)  
 $R_{th}$ -t CHARACTERISTICS



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