

Super Fast Recovery Diode

RFN10NS6S

●Series

Standard Fast Recovery

●Applications

General rectification

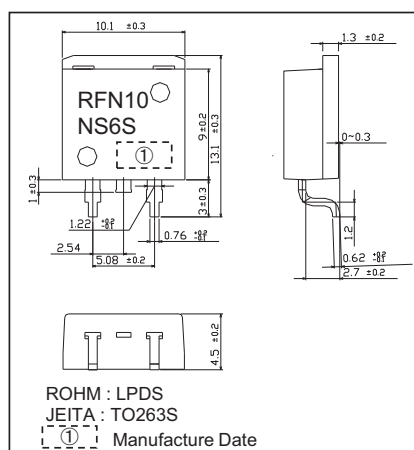
●Features

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

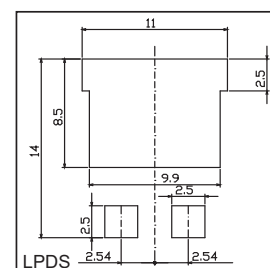
●Construction

Silicon epitaxial planer type

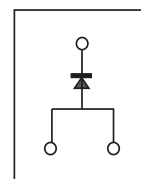
●Dimensions(Unit : mm)



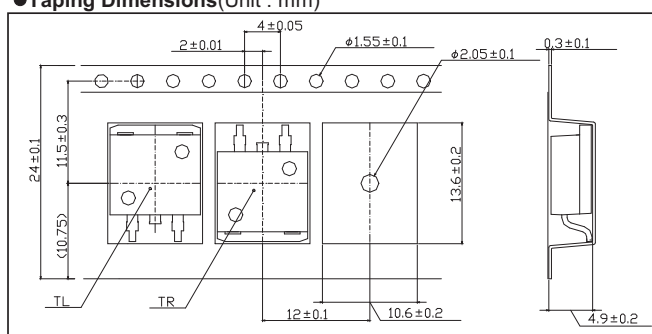
●Land Size Figure(Unit : mm)



●Structure



●Taping Dimensions(Unit : mm)



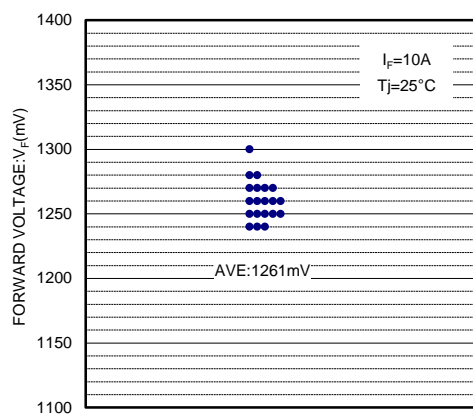
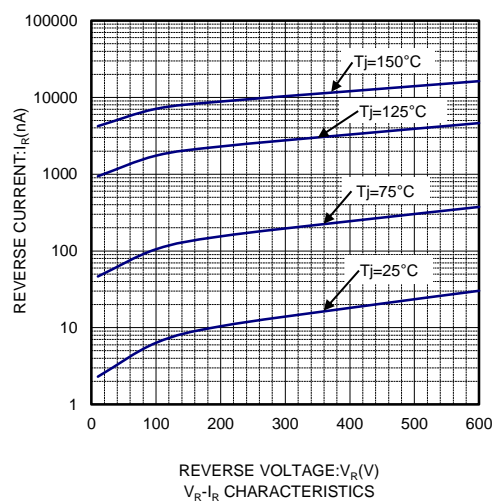
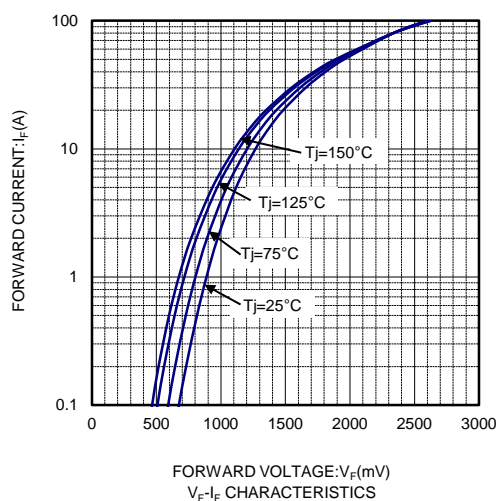
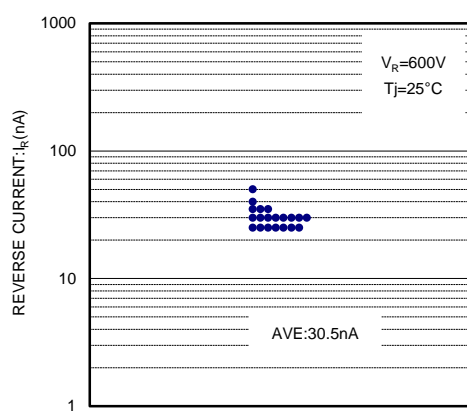
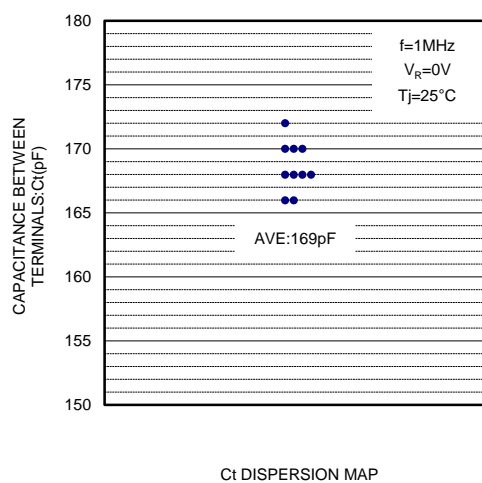
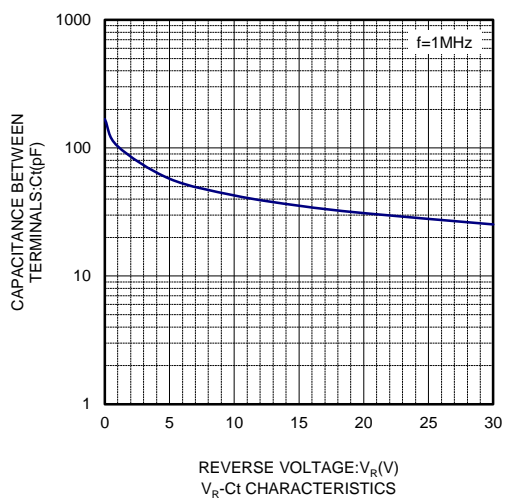
●Absolute Maximum Ratings(Tc=25°C)

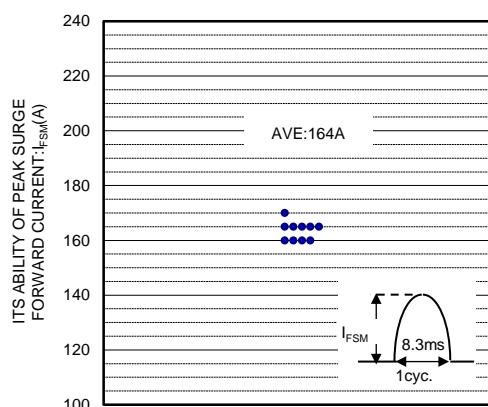
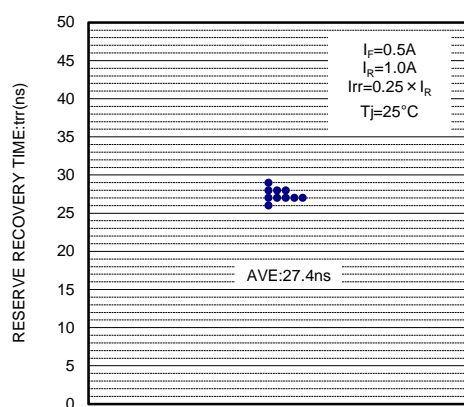
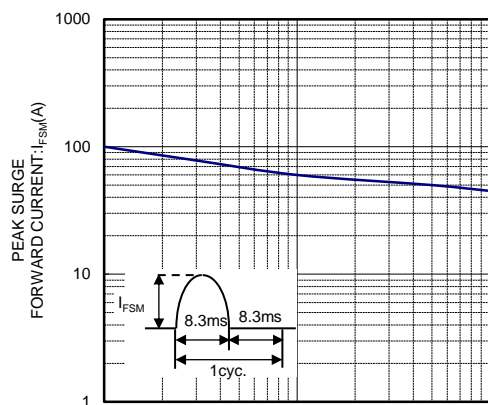
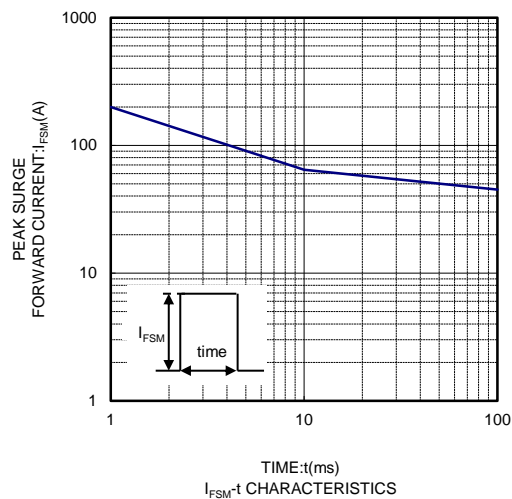
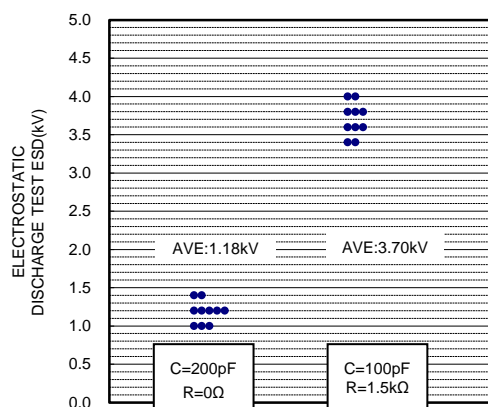
Parameter	Symbol	Conditions	Limits	Unit
Repetitive peak reverse voltage	V_{RM}	Duty ≤ 0.5	600	V
Reverse voltage	V_R	Direct voltage	600	V
Average rectified forward current	I_o	60Hz half sin wave , Resistive load Tc=91°C	10	A
Forward current surge peak	I_{FSM}	60Hz half sin wave , Non-repetitive at Tj=25°C (*1)	100	A
Junction temperature	Tj		150	°C
Storage temperature	Tstg		-55 to +150	°C

(*1) 1-3pin common circuit

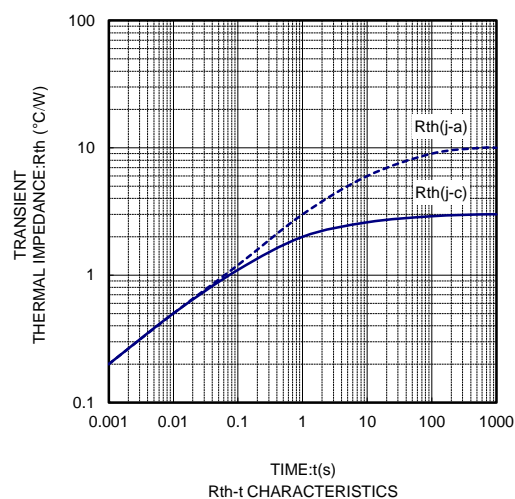
●Electrical Characteristics(Tj=25°C)

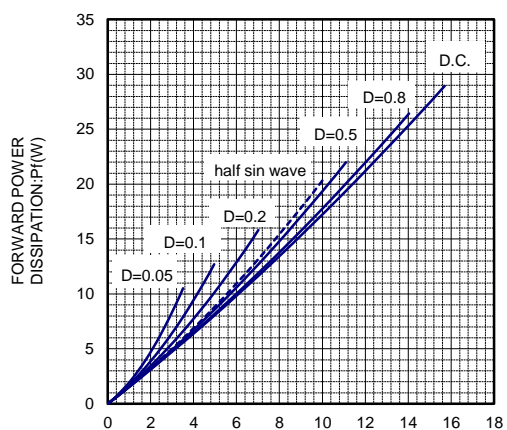
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward voltage	V_F	$I_F=10A$	—	1.25	1.55	V
Reverse current	I_R	$V_R=600V$	—	0.05	10	μA
Reverse recovery time	trr	$I_F=0.5A, I_R=1A, I_{rr}=0.25 \times I_R$	—	30	50	ns
Thermal resistance	Rth(j-c)	Junction to case	—	—	3.0	°C/W

 V_F DISPERSION MAP I_R DISPERSION MAP C_t DISPERSION MAP

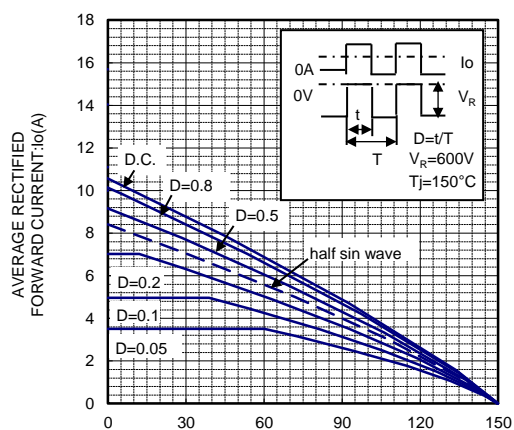
 I_{FSM} DISPERSION MAP t_{rr} DISPERSION MAP I_{FSM} CYCLE CHARACTERISTICS I_{FSM} -t CHARACTERISTICS

ESD DISPERSION MAP

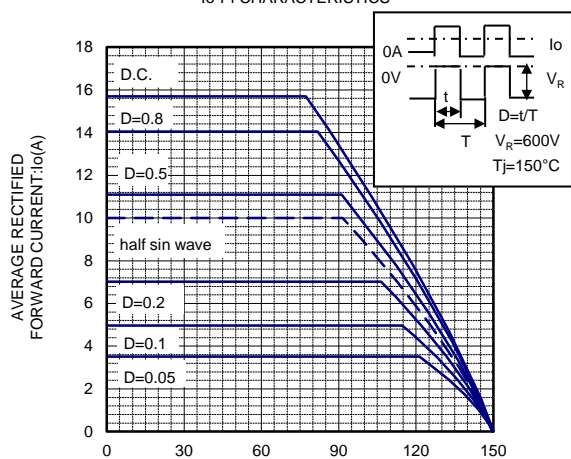
 R_{th} -t CHARACTERISTICS



AVERAGE RECTIFIED
FORWARD CURRENT: I_o (A)
 I_o - P_F CHARACTERISTICS



AMBIENT TEMPERATURE: T_a (°C)
DERATING CURVE (I_o - T_a)



CASE TEMPERATURE: T_c (°C)
DERATING CURVE (I_o - T_c)

Notes

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