

# Schottky barrier diode

## RSX1001T3

● **Applications**

Switching power supply

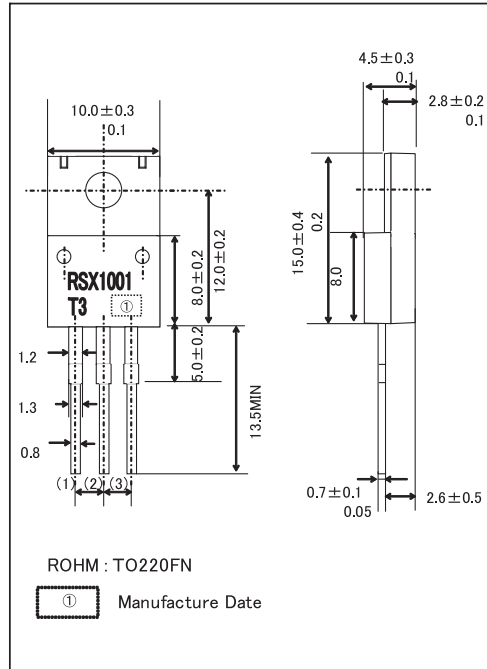
● **Features**

- 1) Cathode common type. (TO-220)
- 2) Low  $I_R$
- 3) High reliability

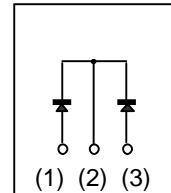
● **Construction**

Silicon epitaxial planer

● **Dimensions (Unit : mm)**



● **Structure**



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

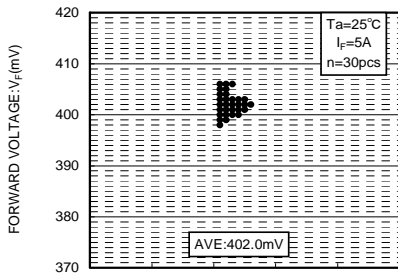
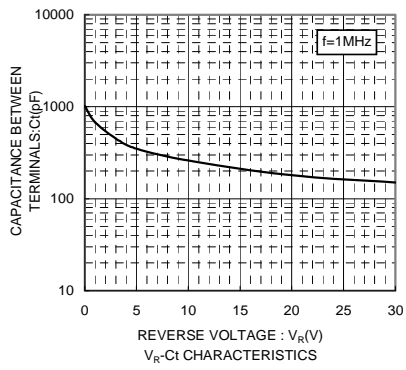
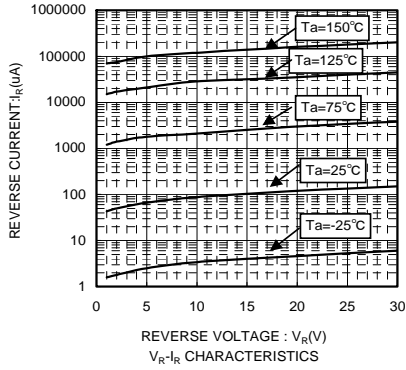
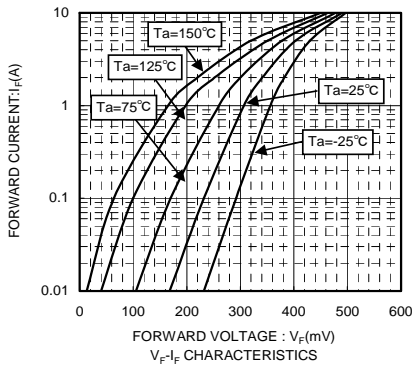
Parameter	Symbol	Limits	Unit
Reverse voltage (repetitive peak)	$V_{RM}$	30	V
Reverse voltage (DC)	$V_R$	30	V
Average rectified forward current (*1)	$I_o$	10	A
Forward current surge peak (60Hz / 1cyc) (*1)	$I_{FSM}$	150	A
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-40 to +150	°C

(\*1)Business frequencies, Rating of R-load, 1/2  $I_o$  per diode,  $T_c=132^\circ\text{C}$

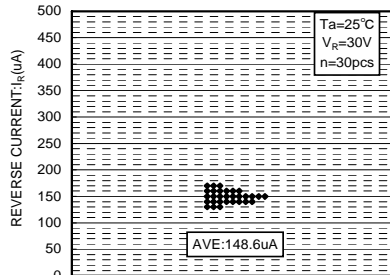
● **Electrical characteristic (Ta=25°C)**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Forward voltage	$V_F$	-	-	0.45	V	$I_F=5\text{A}$
Reverse current	$I_R$	-	-	500	$\mu\text{A}$	$V_R=30\text{V}$
Reverse recovery time	$\theta_{jc}$	-	-	2.5	°C/W	junction to case

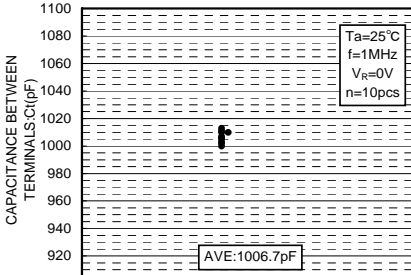
●Electrical characteristic curves



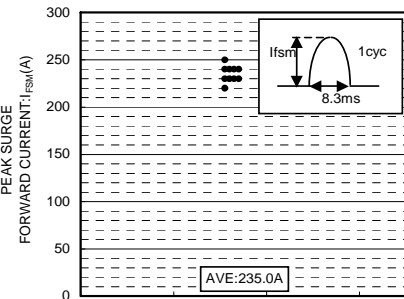
$V_F$  DISPERSION MAP



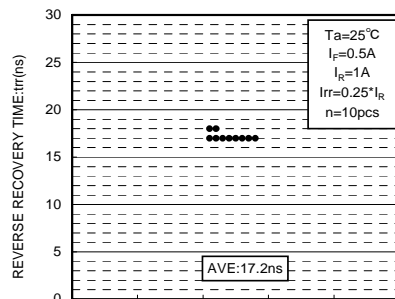
$I_R$  DISPERSION MAP



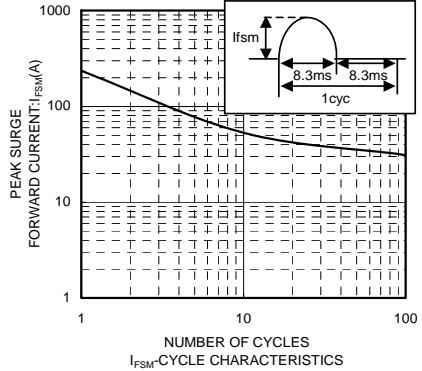
$C_t$  DISPERSION MAP



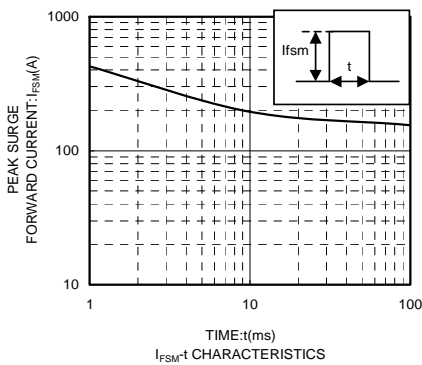
$I_{FSM}$  DISPERSION MAP



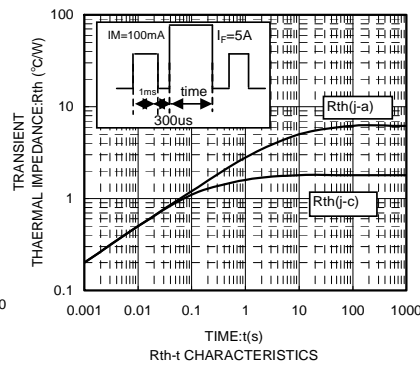
$t_{RR}$  DISPERSION MAP



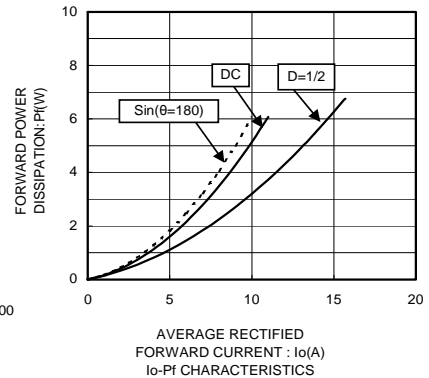
$I_{FSM}$  CYCLE CHARACTERISTICS



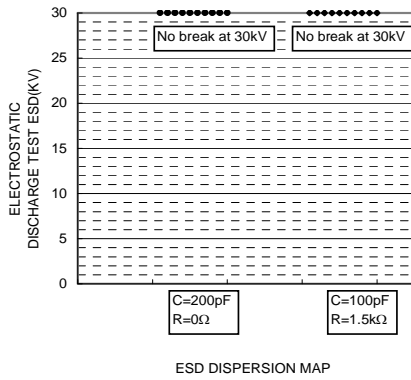
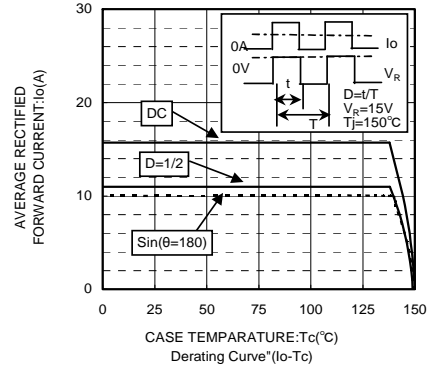
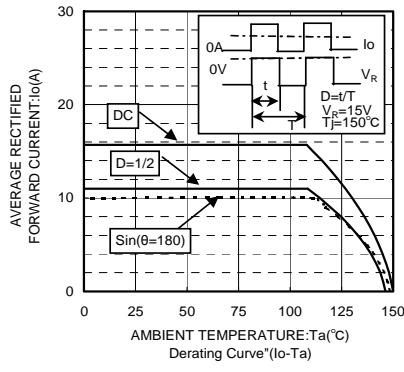
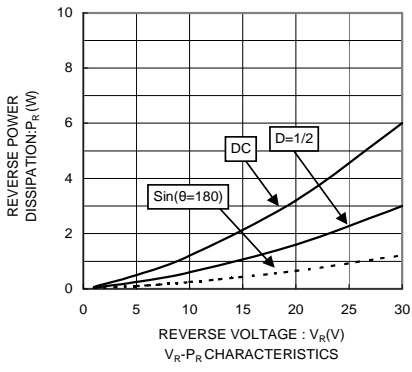
$I_{FSM}$ - $t$  CHARACTERISTICS



$R_{th}$ - $t$  CHARACTERISTICS



AVERAGE RECTIFIED FORWARD CURRENT :  $I_o$ (A)  $I_o$ - $P_f$  CHARACTERISTICS



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