

# Fast recovery diodes

## RF1601T2D

**●Applications**

General rectification

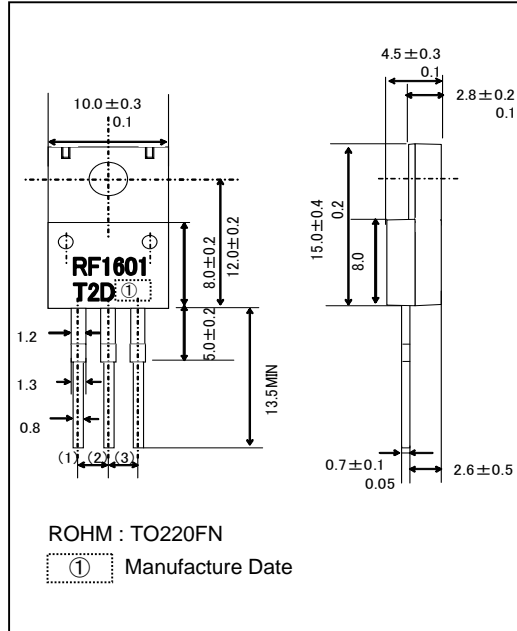
**●Features**

- 1) Cathode common type.  
(TO-220)
- 2) Ultra Low  $V_F$
- 3) Very fast recovery
- 4) Low switching loss

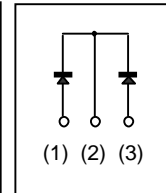
**●Construction**

Silicon epitaxial planar

**●Dimensions (Unit : mm)**



**●Structure**



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

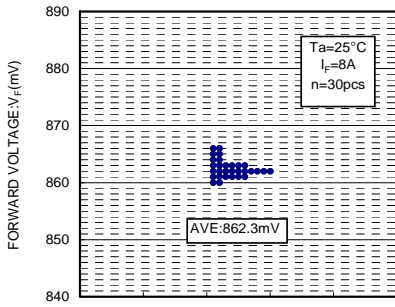
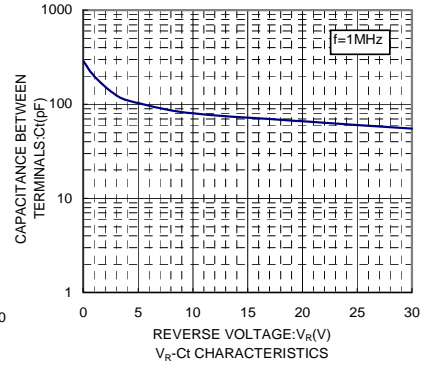
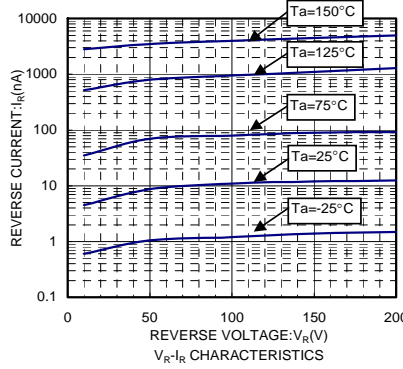
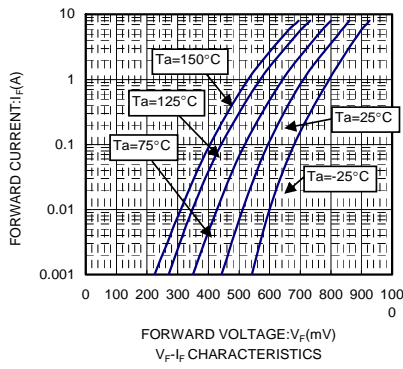
Parameter	Symbol	Limits	Unit
Reverse voltage (repetitive peak)	$V_{RM}$	200	V
Reverse voltage (DC)	$V_R$	200	V
Average rectified forward current (*1)	$I_o$	16	A
Forward current surge peak (60Hz/1cyc)	$I_{FSM}$	80	A
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

(\*1)Business frequency, Rating of R-load,  $T_c=120^\circ\text{C}$ . 1/2  $I_o$  per diode

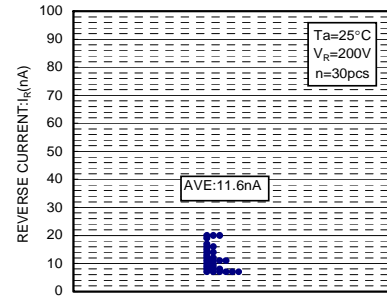
**●Electrical characteristic (Ta=25°C)**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Forward voltage	$V_F$	-	-	0.93	V	$I_F=8\text{A}$
Reverse current	$I_R$	-	-	10	$\mu\text{A}$	$V_R=200\text{V}$
Reverse recovery time	$t_{rr}$	-	-	30	ns	$I_F=0.5\text{A}, I_R=1\text{A}, I_{rr}=0.25 \cdot I_R$

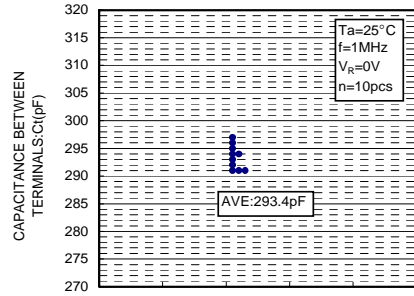
●Electrical characteristics curves



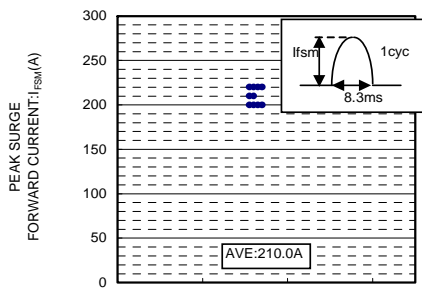
$V_F$  DISPERSION MAP



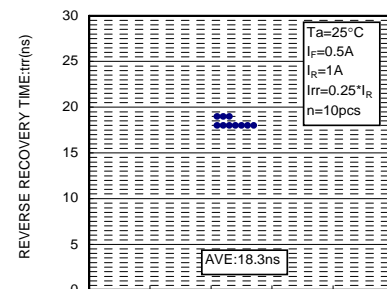
$I_R$  DISPERSION MAP



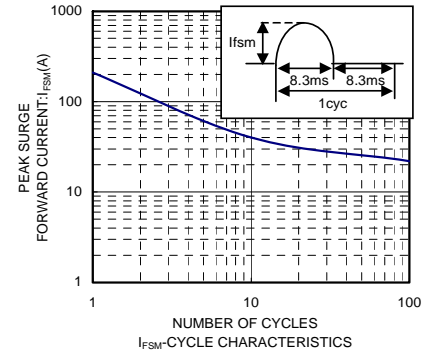
$C_t$  DISPERSION MAP



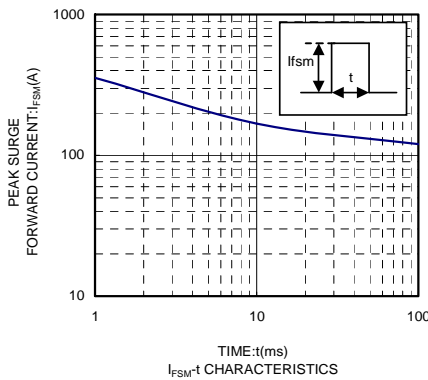
$I_{FSM}$  DISPERSION MAP



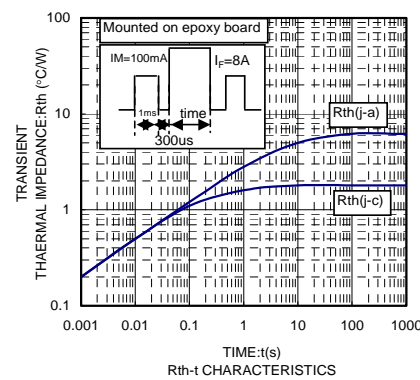
$t_{rr}$  DISPERSION MAP



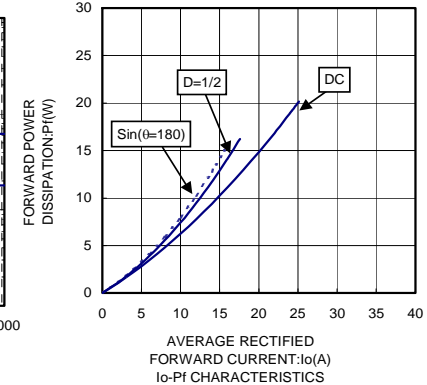
$I_{FSM}$  CYCLE CHARACTERISTICS



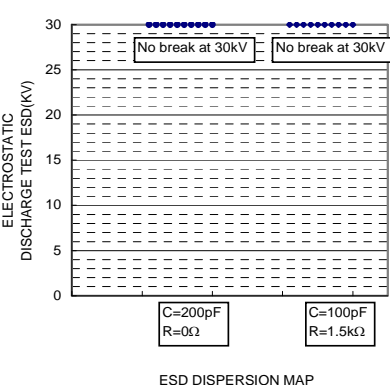
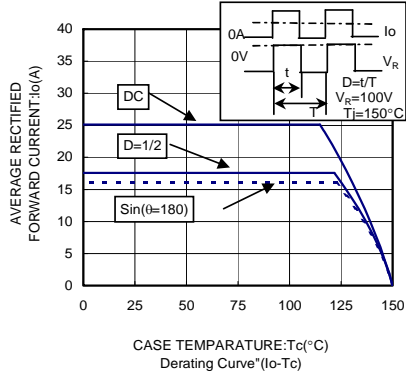
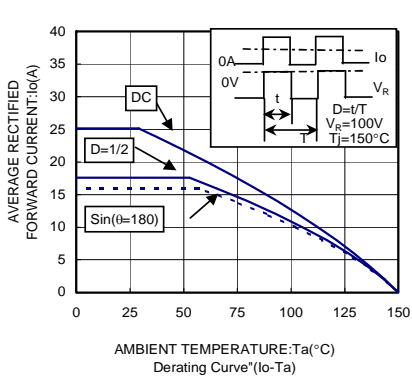
$I_{FSM}$   $t$  CHARACTERISTICS



$R_{th}$   $t$  CHARACTERISTICS



$I_o$   $P$  CHARACTERISTICS



ESD DISPERSION MAP

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