# Fast recovery diodes RF1601T2D

### Applications

General rectification

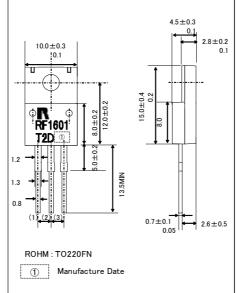
#### ● Features

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

#### Construction

Silicon epitaxial planar

## ●External dimensions (Unit : mm)



#### ●Structure



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

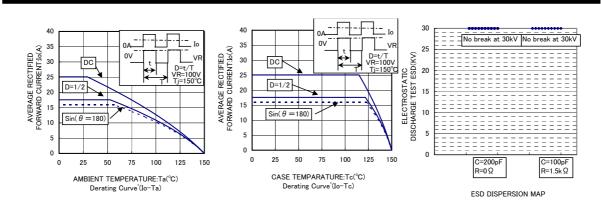
Parameter	Symbol	Limits	Unit	
Reverse voltage (repetitive peak)	$V_{RM}$	200	V	
Reverse voltage (DC)	$V_R$	200	V	
Average rectified forward current (*1)	lo	16	Α	
Forward current surge peak (60Hz•1cyc)	I <sub>FSM</sub>	80	Α	
Junction temperature	Tj	150	°C	
Storage temperature	Tstg	-55 to +150	°C	

<sup>(\*1)</sup> Per chip: Io/2

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

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Forward voltage	$V_{F}$	-	-	0.93	V	I <sub>F</sub> =8A
Reverse current	I <sub>R</sub>	-	-	10	μΑ	V <sub>R</sub> =200V
Reverse recovery time	trr	-	-	30	ns	I <sub>F</sub> =0.5A,I <sub>R</sub> =1A,Irr=0.25*I <sub>R</sub>

#### Electrical characteristic curves 1000 10000 CAPACITANCE BETWEEN TERMINAL S.Ct(pF) 0 FORWARD CURRENT:IF(A) 0.1 0.01 0.001 0.1 0 100 200 300 400 500 600 700 800 900 100 0 50 100 150 REVERSE VOLTAGE: VR(V) 0 10 30 FORWARD VOLTAGE: VF(mV) VF-IF CHARACTERISTICS REVERSE VOLTAGE:VR(V) VR-IR CHARACTERISTICS VR-Ct CHARACTERISTICS 320 315 Ta=25°C 90 Ta=25°C f=1MHz VR=200V IF=8A n=30pcs FORWARD VOLTAGE:VF(mV) 80 310 880 n=30pc VR=0V REVERSE CURRENT:IR(nA) CAPACITANCE BETWEEN 305 n=10pcs 70 TERMINALS:Ct(pF) 300 60 870 50 295 290 40 860 30 285 AVE:862.3mV 280 850 20 275 10 270 840 VF DISPERSION MAP IR DISPERSION MAP Ct DISPERSION MAP 1000 300 30 RESERVE RECOVERY TIME:trr(ns) PEAK SURGE FORWARD CURRENT:IFSM(A) IF=0.5A PEAK SURGE FORWARD CURRENT:IFSM(A) 25 IR=1A Irr=0.25\*IR 200 100 20 150 100 10 50 AVE:18.3ns 0 ٥ 10 100 trr DISPERSION MAP NUMBER OF CYCLES IFSM-CYCLE CHARACTERISTICS IFSM DISRESION MAP 100 30 Mounted on epoxy board TRANSIENT THAERMAL IMPEDANCE:Rth (°C/W) 25 PEAK SURGE FORWARD CURRENT:IFSM(A) DC D=1/2 20 10 FORWARD POWER DISSIPATION:Pf(W) $Sin(\theta = 180)$ 100 15 10 0 10 0.1 10 TIME:t(ms) IFSM-t CHARACTERISTICS 0.1 10 TIME:t(s) Rth-t CHARACTERISTICS 10 15 20 25 30 35 0 AVERAGE RECTIFIED FORWARD CURRENT: Io(A) In-Pf CHARACTERISTICS



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