

# Super Fast Recovery Diode

## RFX10TF6S

●Series

Ultra Fast Recovery

●Applications

General rectification

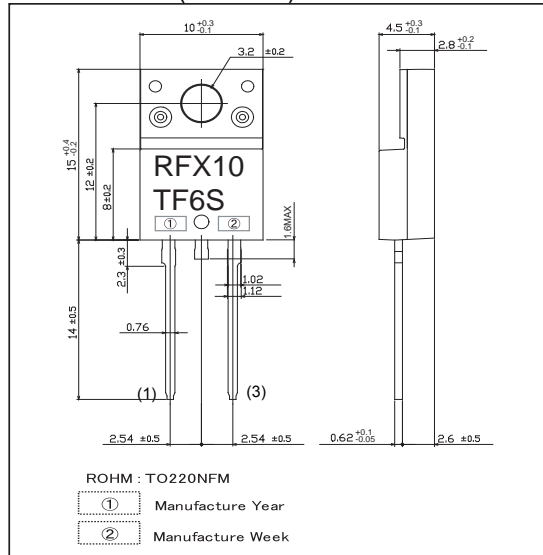
●Features

- 1)Single type.(TO-220)
- 2)High switching speed
- 3)Soft Recovery

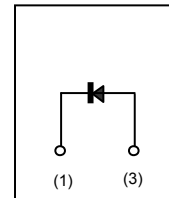
●Construction

Silicon epitaxial planer

●Dimensions (Unit : mm)



●Structure



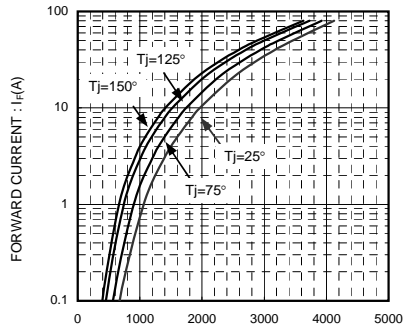
●Absolute maximum ratings (Tc=25°C)

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, Resistance load, Tc=57°C	10	A
Forward current surge peak	$I_{FSM}$	60Hz half sin wave, Non-repetitive one cycle peak value, Tj=25°C	100	A
Junction temperature	Tj		150	°C
Storage temperature	Tstg		-55 to +150	°C

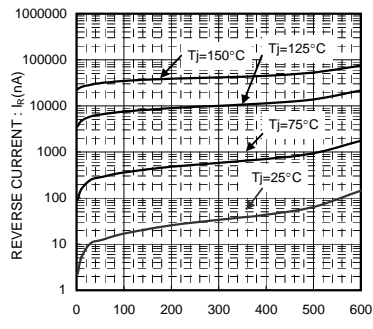
●Electrical characteristics (Tj=25°C)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward voltage	$V_F$	$I_F=10A$	-	2	2.5	V
Reverse current	$I_R$	$V_R=600V$	-	0.15	10	$\mu A$
Reverse recovery time	trr	$I_F=0.5A, I_R=1A, I_{rr}=0.25 \times I_R$	-	16	30	ns
Thermal Resistance	Rth(j-c)	junction to case	-	-	3.5	°C / W

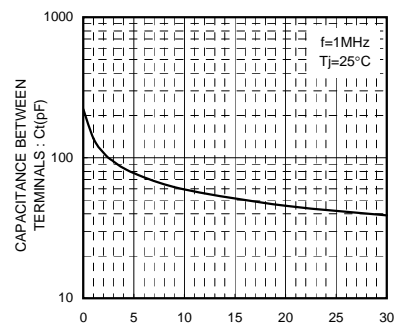
●Electrical characteristics curves



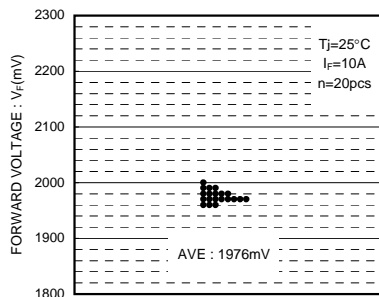
FORWARD VOLTAGE :  $V_f$  (mV)  
 $V_f$ - $I_f$  CHARACTERISTICS



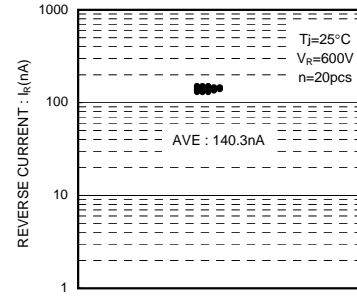
REVERSE VOLTAGE :  $V_r$  (V)  
 $V_r$ - $I_r$  CHARACTERISTICS



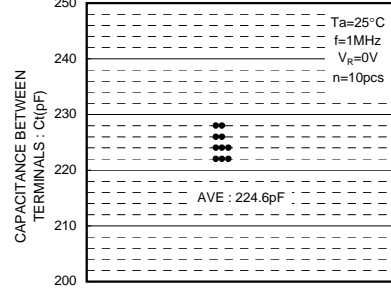
REVERSE VOLTAGE :  $V_r$  (V)  
 $V_r$ - $C_t$  CHARACTERISTICS



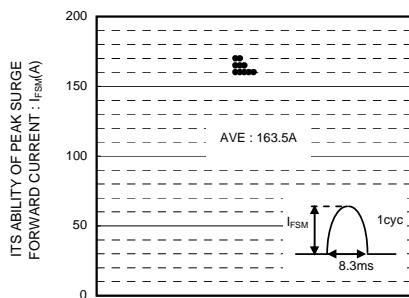
$V_f$  DISPERSION MAP



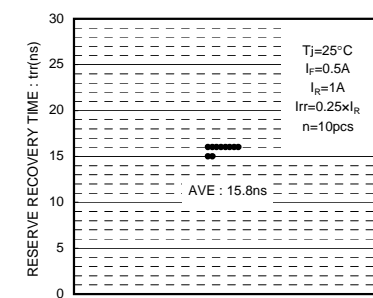
$I_r$  DISPERSION MAP



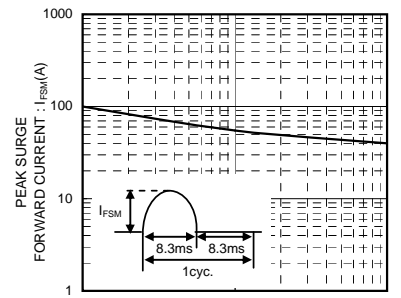
$C_t$  DISPERSION MAP



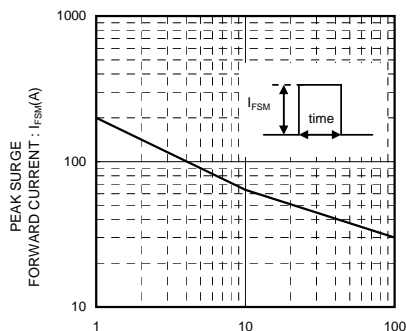
$I_{FSM}$  DISPERSION MAP



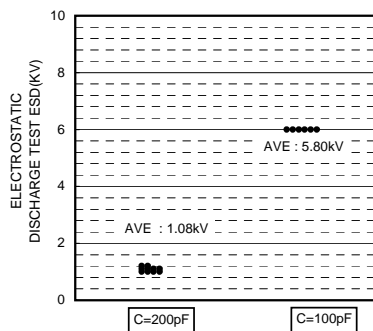
$t_{rr}$  DISPERSION MAP



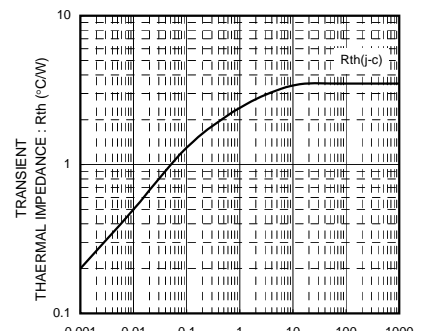
NUMBER OF CYCLES  
 $I_{FSM}$ -CYCLE CHARACTERISTICS



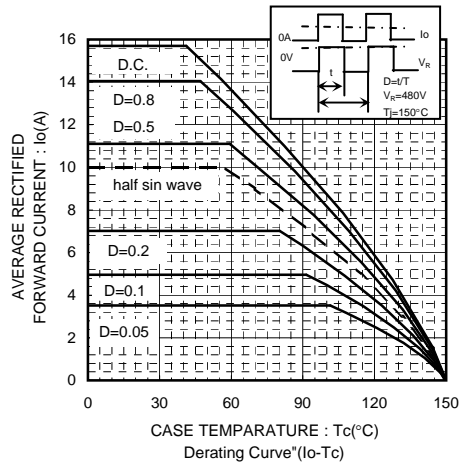
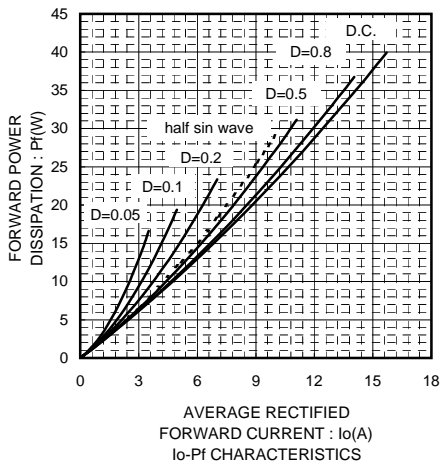
TIME :  $t$  (ms)  
 $I_{FSM}$ - $t$  CHARACTERISTICS



ESD DISPERSION MAP



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



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