

●Serise

Standard Fast Recovery

●Application

General rectification

For PFC

(CCM : Continuous Current Mode)

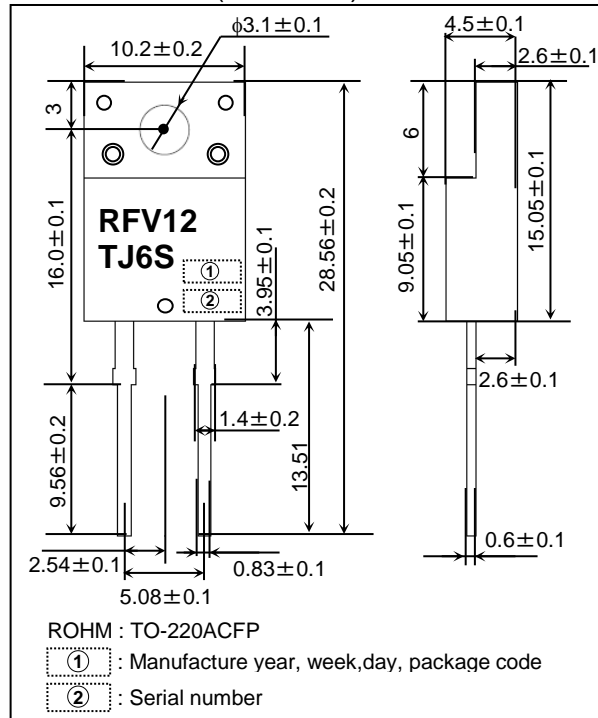
●Features

- 1) Hyper fast recovery / Hard recovery type
- 2) Ultra low switching loss
- 3) High current overload capacity

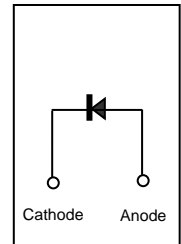
●Construction

Silicon epitaxial planar type

●Dimensions (Unit : mm)



●Structure



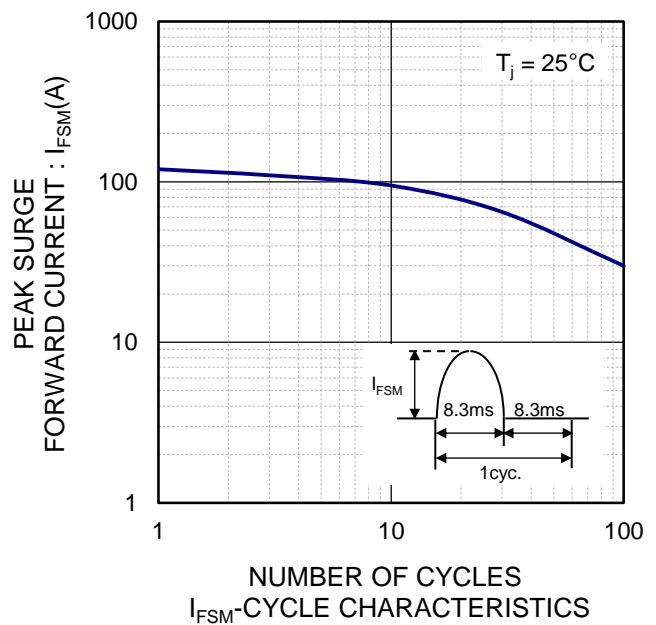
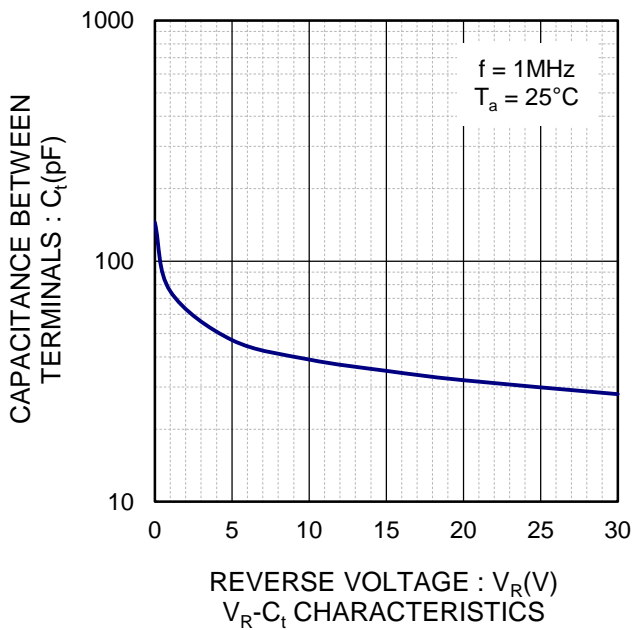
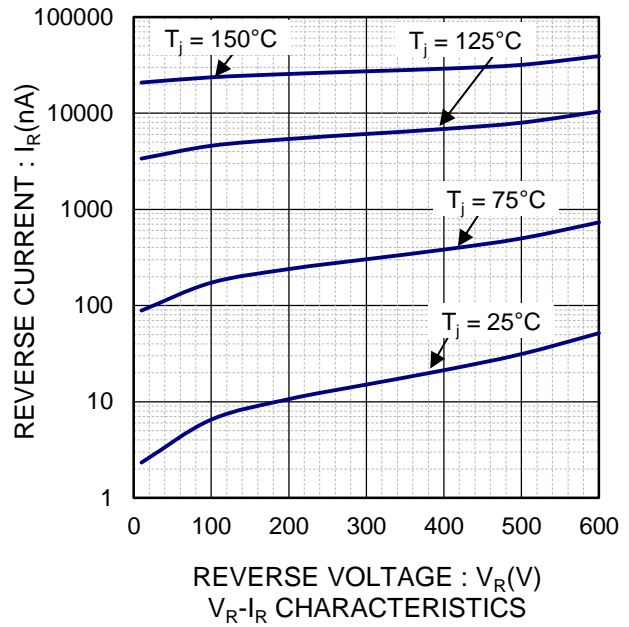
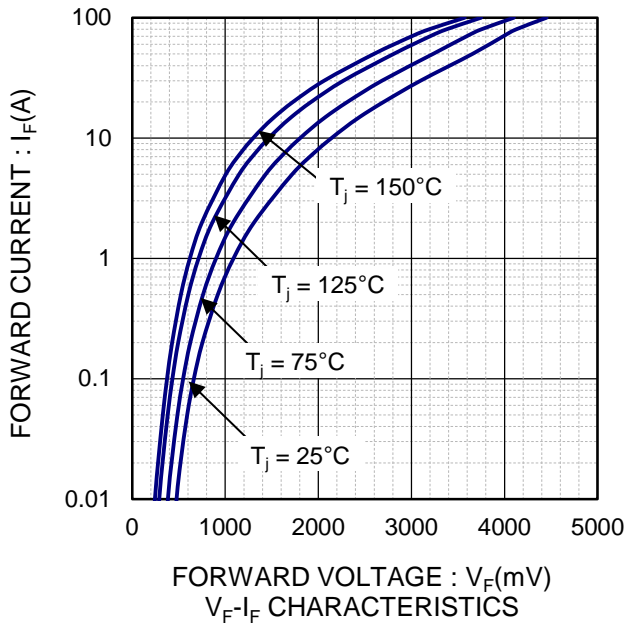
●Absolute Maximum Ratings ($T_c = 25^\circ\text{C}$)

Parameter	Symbol	Conditions	Limits	Unit
Repetitive peak reverse voltage	V_{RM}	Duty ≤ 0.5	600	V
Reverse voltage	V_R	Direct reverse voltage	600	V
Average current	I_o	60Hz half sin wave , resistive load $T_c=50^\circ\text{C}$	12	A
Non-repetitive forward surge current	I_{FSM}	60Hz half sin wave, one cycle, non-repetitive at $T_j=25^\circ\text{C}$	120	A
Operating junction temperature	T_j	-	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-	-55 to +150	$^\circ\text{C}$

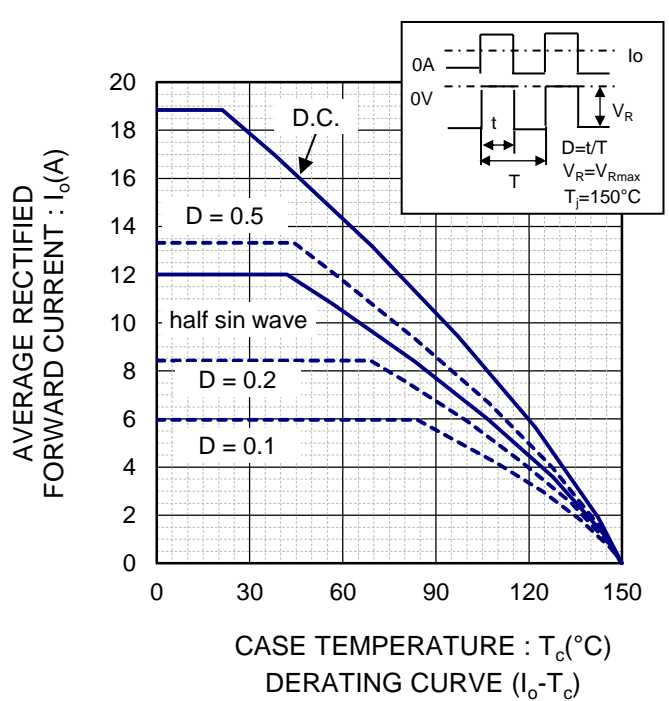
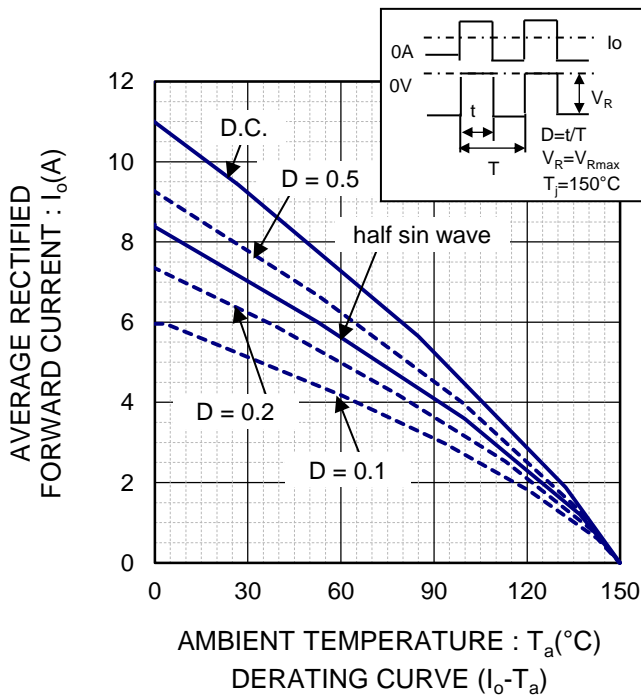
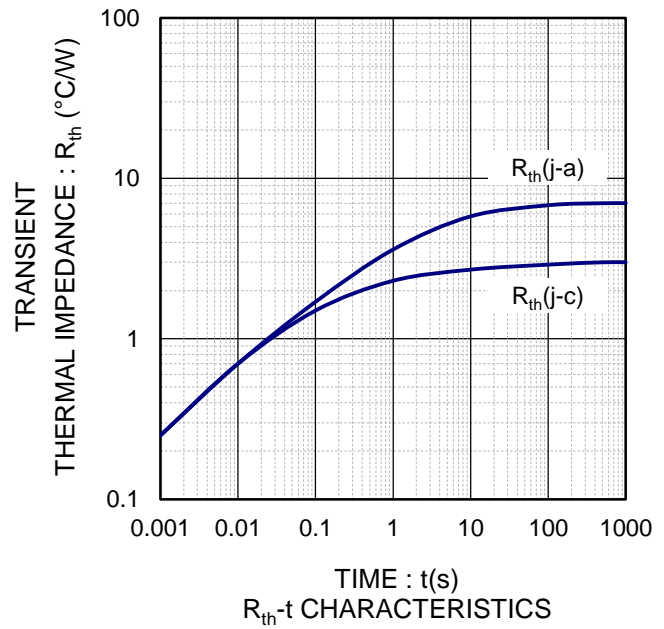
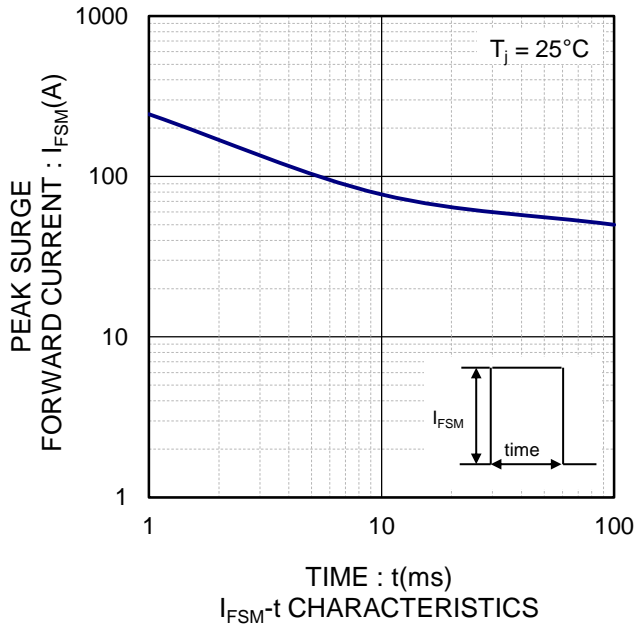
●Electrical Characteristics ($T_j = 25^\circ\text{C}$)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit	
Forward voltage	V_F	$I_F=12\text{A}$	$T_j=25^\circ\text{C}$	1.6	2.3	2.8	V
			$T_j=125^\circ\text{C}$	-	1.55	-	V
Reverse current	I_R	$V_R=600\text{V}$	$T_j=25^\circ\text{C}$	-	0.03	10	μA
			$T_j=125^\circ\text{C}$	-	8	200	μA
Reverse recovery time	t_{rr}	$I_F=0.5\text{A}, I_R=1\text{A}, I_{rr}=0.25 \times I_R$	-	18	25	ns	
		$I_F=12\text{A}, V_R=400\text{V}, dI_F/dt=-200\text{A}/\mu\text{s}$	-	27	45	ns	
Reverse recovery current	I_{Rp}	$I_F=12\text{A}, V_R=400\text{V}$	-	6.0	-	A	
Reverse recovery charges	Q_{rr}	$dI_F/dt=-200\text{A}/\mu\text{s}$	-	180	-	nC	
Forward recovery time	t_{fr}	$I_F=12\text{A}, dI_F/dt=200\text{A}/\mu\text{s}$	-	120	-	ns	
Forward recovery voltage	V_{Fp}	$V_{FR}=1.1 \times V_{Fmax}$	-	5.5	-	V	
Thermal resistance	$R_{th(j-a)}$	Junction to ambient	-	-	7.0	$^\circ\text{C}/\text{W}$	
	$R_{th(j-c)}$	Junction to case	-	-	3.0	$^\circ\text{C}/\text{W}$	

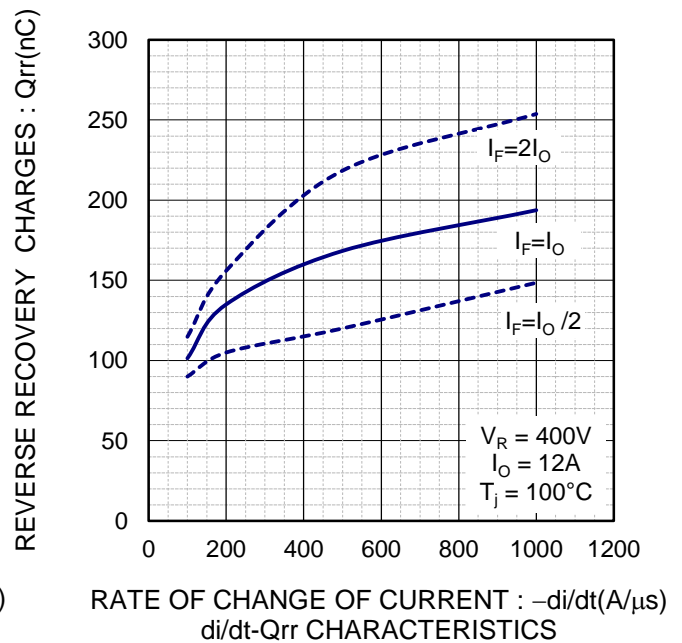
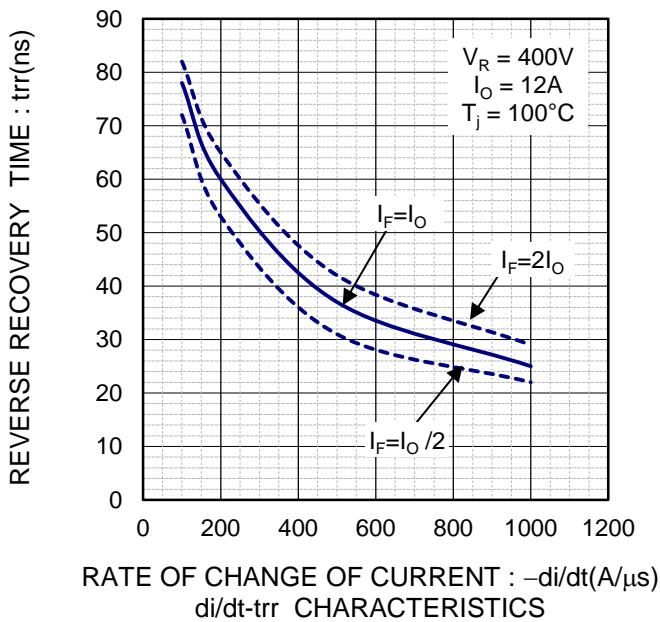
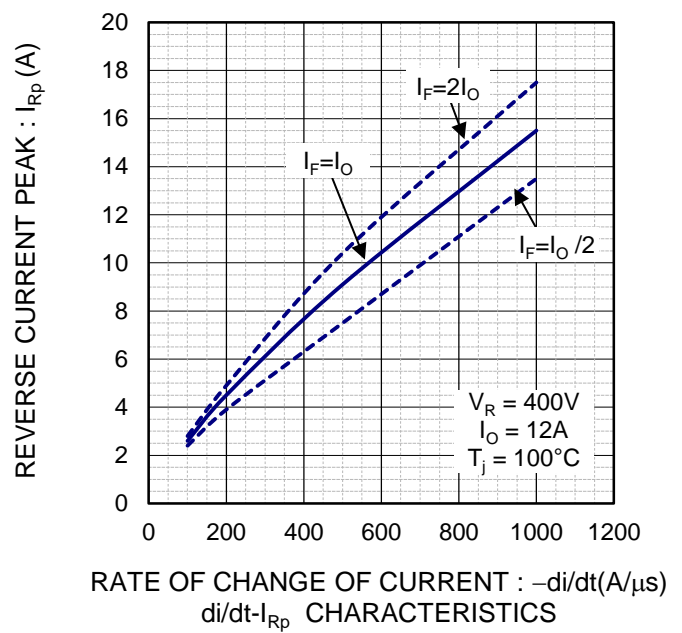
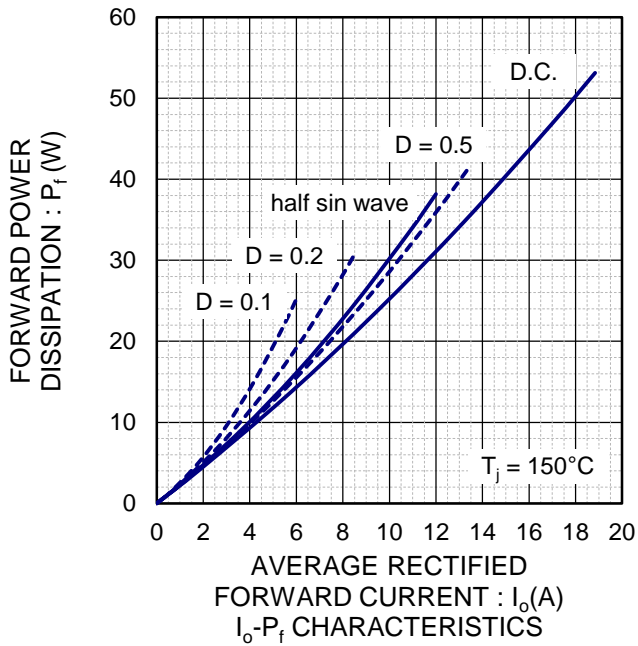
●Electrical Characteristic Curves



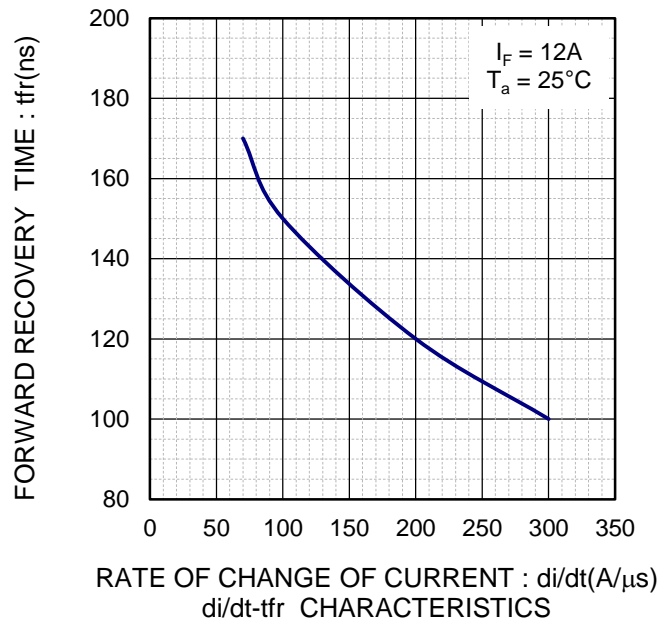
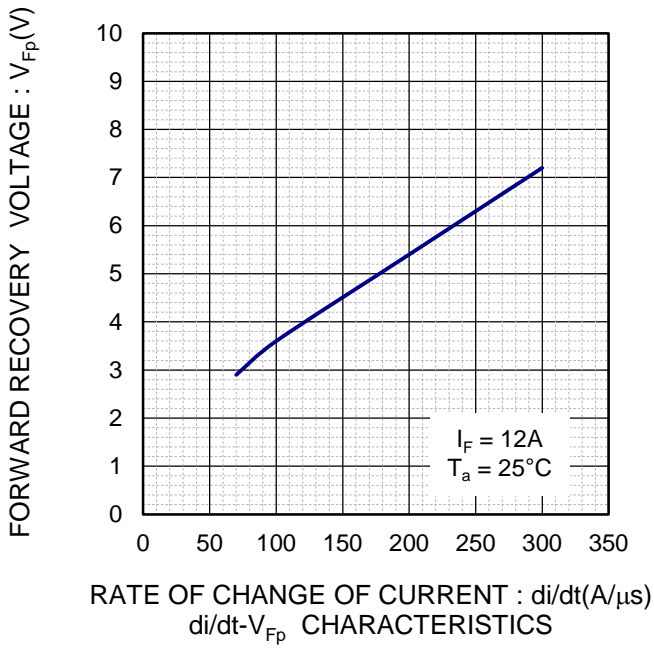
●Electrical characteristic curves



●Electrical characteristic curves



●Electrical characteristic curves



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