Pb Free Plating Product

D92-02

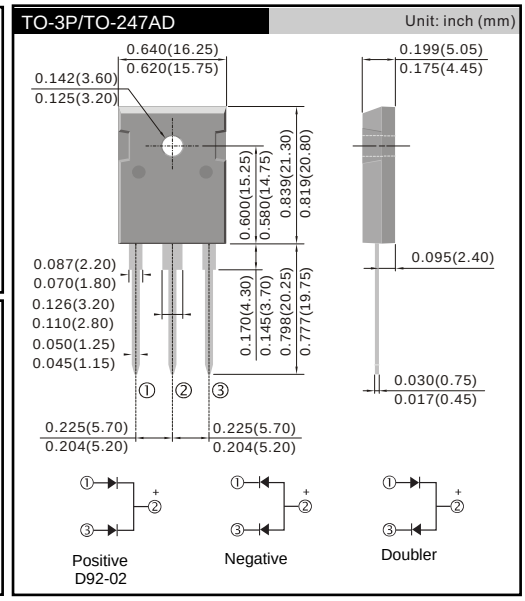
Ultrafast Recovery Rectifier

Features

- Ultrafast Recovery Time
- Soft Recovery Characteristics
- Low Recovery Loss
- Low Forward Voltage
- High Surge Current Capability
- Low Leakage Current

APPLICATIONS

- Freewheeling, Snubber, Clamp
- Inversion Welder
- PFC
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Converter & Chopper
- UPS



ABSOLUTE MAXIMUM RATINGS

T_C=25°C unless otherwise specified

Symbol	Parameter	Test Conditions	Values	Unit
V_R	Maximum D.C. Reverse Voltage		220	V
V_{RRM}	Maximum Repetitive Reverse Voltage		220	V
$I_{F(AV)}$	Average Forward Current	T_C=110°C, Per Diode	10	A
		T_C=110°C, Per Package	20	A
$I_{F(RMS)}$	RMS Forward Current	T_C=110°C, Per Diode	14	A
I_{FSM}	Non-Repetitive Surge Forward Current	T_J=45°C, t=10ms, 50Hz, Sine	100	A
P_D	Power Dissipation		83	W
T_J	Junction Temperature		-40 to +150	°C
T_{STG}	Storage Temperature Range		-40 to +150	°C
Torque	Module-to-Sink	Recommended（M3）	1.1	N·m
$R_{\theta JC}$	Thermal Resistance	Junction-to-Case	1.5	°C /W
Weight			6.0	g

ELECTRICAL CHARACTERISTICS

T_C=25°C unless otherwise specified

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{RM}	Reverse Leakage Current	V_R=220V	--	--	50	μA
		V_R=220V, T_J=125°C	--	--	1	mA
V_F	Forward Voltage	I_F=10A	--	0.86	0.95	V
		I_F=10A, T_J=125°C	--	--	0.80	V
t_{rr}	Reverse Recovery Time	I_F=1A, V_R=30V, di_F/dt=-200A/μs	--	25	--	ns
t_{rr}	Reverse Recovery Time	V_R=100V, I_F=10A	--	32	--	ns
I_{RRM}	Max. Reverse Recovery Current	di_F/dt=-200A/μs, T_J=25°C	--	2.1	--	A
t_{rr}	Reverse Recovery Time	V_R=100V, I_F=10A	--	45	--	ns
I_{RRM}	Max. Reverse Recovery Current	di_F/dt=-200A/μs, T_J=125°C	--	5	--	A

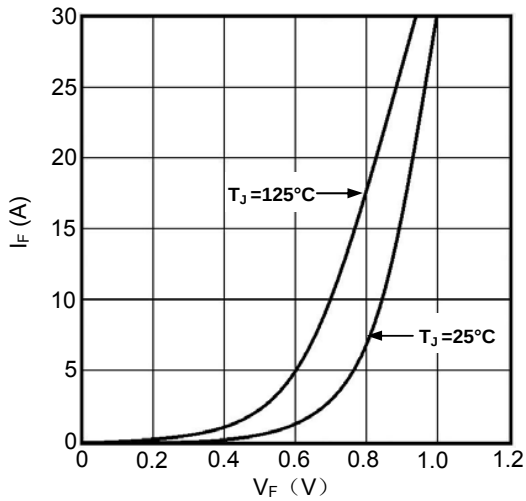


Fig1. Forward Voltage Drop vs Forward Current

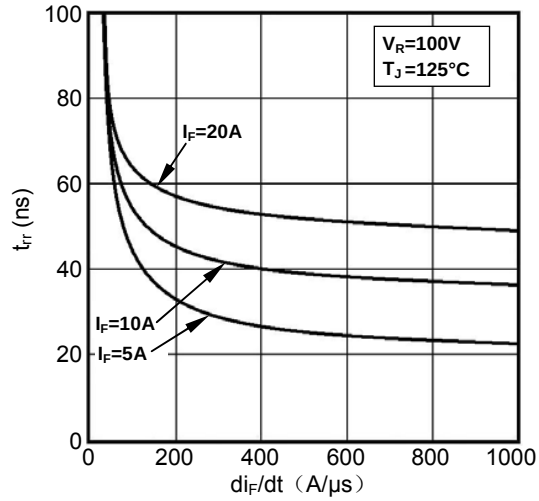


Fig2. Reverse Recovery Time vs di_F/dt

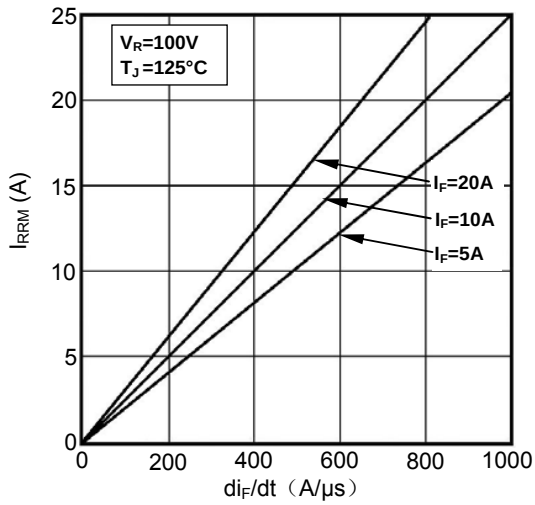


Fig3. Reverse Recovery Current vs di_F/dt

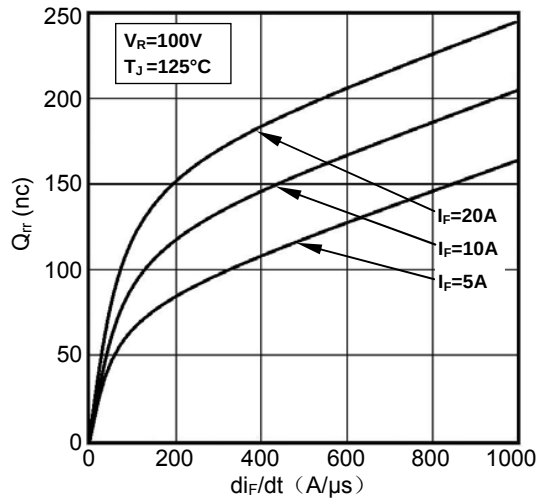


Fig4. Reverse Recovery Charge vs di_F/dt

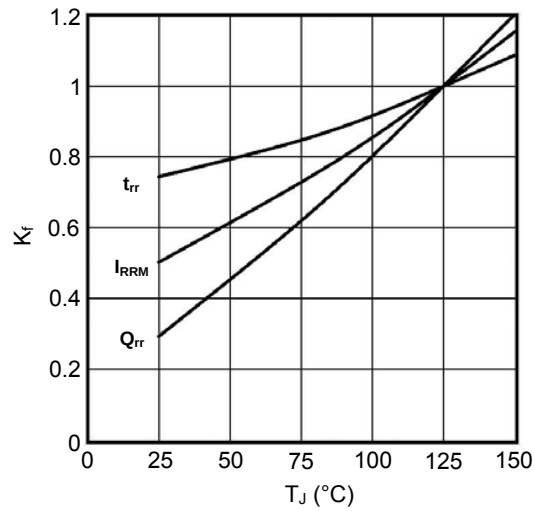


Fig5. Dynamic Parameters vs Junction Temperature

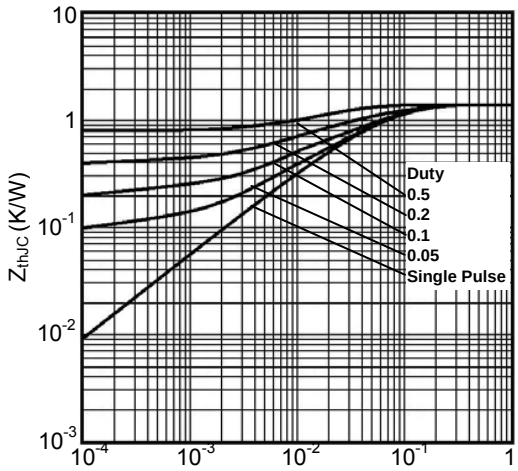


Fig6. Transient Thermal Impedance