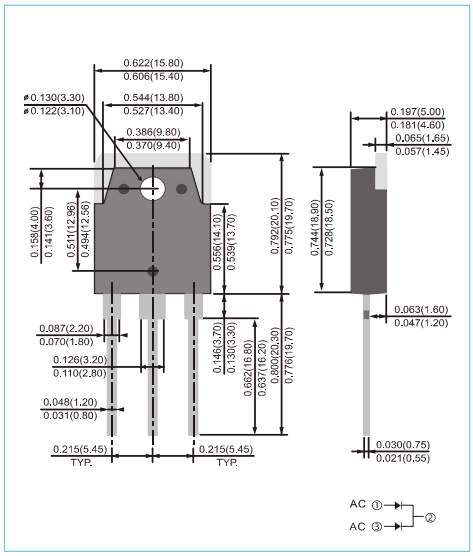
QR3006RT

PLANAR STRUCTURED SUPERFAST RECOVERY RECTIFIERS

VOLTAGE 600 Volt **CURRENT** 30 Ampere

TO-3PL Unit : inch(mm)



FEATURES

- Planar structure with EPI wafer
- Ultrafast recovery time, low V_F and soft recovery
- For PFC (DCM/CCM) operation
- Low leakage current
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O Flame Retardant Epoxy Molding Compound
- Exceeds environmental standards of MIL-S-19500/228
- Lead free in compliance with EU RoHS 2011/65/EU directive

MECHANICAL DATA

- Case: TO-3PL package
- Terminals: Lead solderable per MIL-STD-750, Method 2026
- Weight: 0.182 ounces, 5.174 grams

MAXIMUM RATINGS(T_A=25°C unless otherwise noted)

PARAMETER		SYMBOL	VALUE	UNIT
Maximum recurrent peak reverse voltage		V_{RRM}	600	V
Maximum rms voltage		V_{RMS}	420	V
Maximum dc blocking voltage		V_R	600	V
Maximum average forward rectified current	per diode per device	$I_{F(AV)}$	15 30	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode		I_{FSM}	200	A
Typical thermal resistance (Note 1)		$R_{\Theta JC}$	2	°C/W
Operating junction temperature range		T_J	-55 to + 150	°C
Storage temperature range		T_{STG}	-55 to + 150	°C

NOTE :

1. Device mounted on a infinite heatsink , then measured the center of the marking side.

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ELECTRICAL CHARACTERISTICS(T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Breakdown voltage	V_{BR}	I_R=100μA	600	-	-	V
Instantaneous forward voltage	V_F	I_F=1A I_F=5A I_F=15A T_J=25°C	- - -	0.86 1.13 1.37	- - 1.65	V
		I_F=1A I_F=5A I_F=15A T_J=125°C	- - -	0.62 0.86 1.13	- - 1.35	V
Reverse leakage current	I_R	V_R=600V T_J=25°C T_J=125°C	- -	- -	3 100	μA
Reverse recovery time	T_{RR}	I_F=0.5A I_R=1A I_{RR}=0.25A T_J=25°C	-	-	45	ns
		I_F=1A V_R=30V di/dt=100A/μs T_J=25°C	-	-	35	ns
		I_F=15A V_R=400V di/dt=200A/μs T_J=25°C	-	50	-	ns
Peak recovery current	I_{RRM}	I_F=15A V_R=400V di/dt=200A/μs T_J=25°C	-	3.5	-	A
Reverse recovery charge	Q_{RR}	I_F=15A V_R=400V di/dt=200A/μs T_J=25°C	-	85	-	nC

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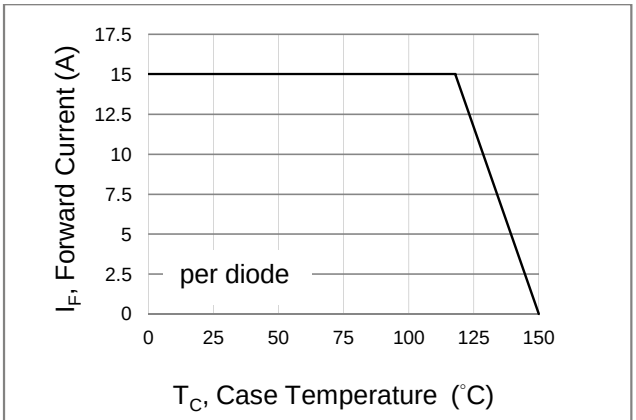

Fig.1 Forward Current Derating Curve

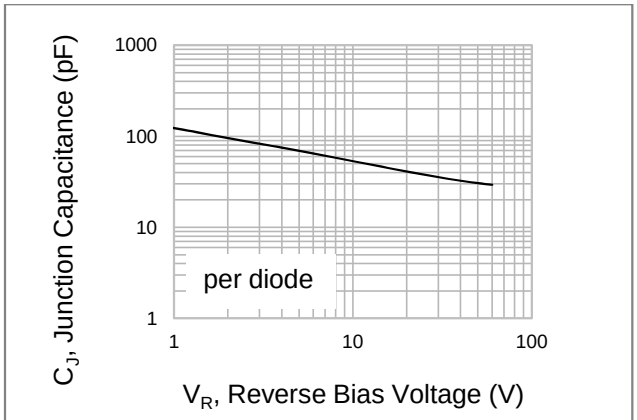

Fig.1 Typical Junction Capacitance

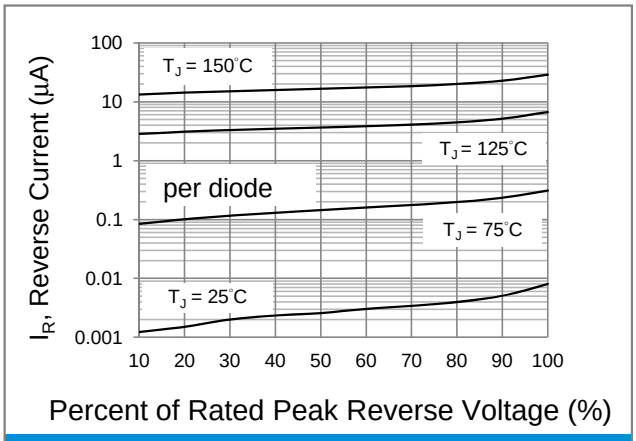

Fig.2 Typical Reverse Characteristics

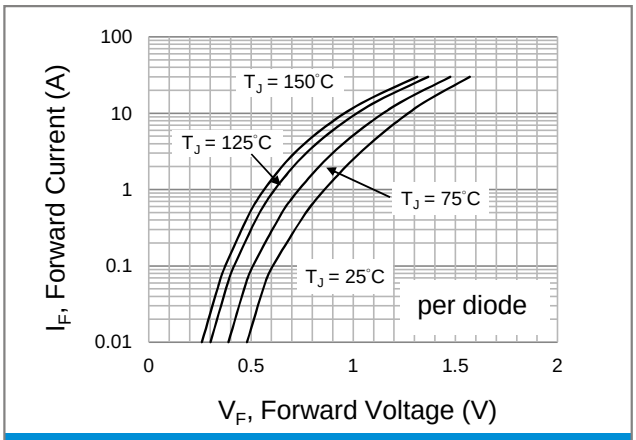

Fig.3 Typical Forward Characteristics

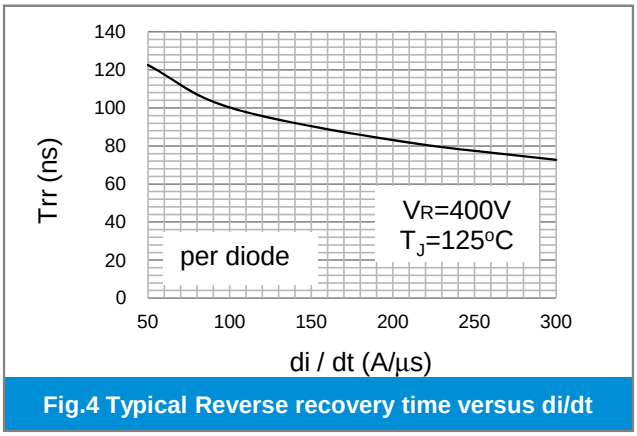

Fig.4 Typical Reverse recovery time versus di/dt

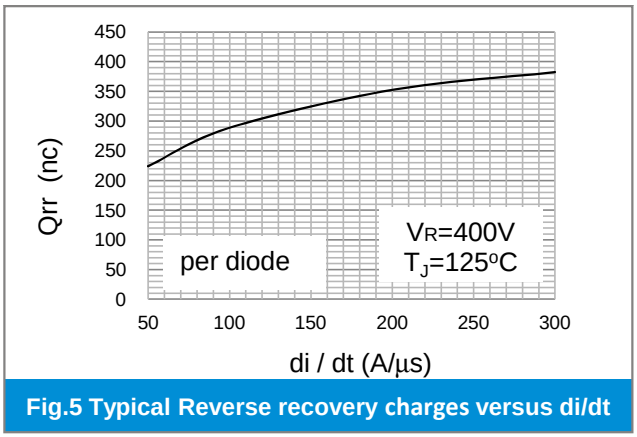

Fig.5 Typical Reverse recovery charges versus di/dt

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