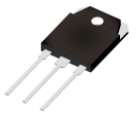
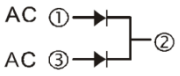
QR60C06RT

PLANAR STRUCTURED SUPERFAST RECOVERY RECTIFIERS

Voltage	600 V	Current	60 A

TO-3PL





Features

- Planar structure with EPI wafer
- For PFC (DCM/CrCM) operation
- Low V_F and soft recovery
- Low leakage current
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case: TO-3PL molded plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0183 ounces, 5.175 grams

Maximum Ratings and Thermal Characteristics (T_A = 25°C unless otherwise noted)

PARAMETER		SYMBOL	LIMIT	UNITS
Maximum Recurrent Peak Reverse Voltage		V_{RRM}	600	V
Maximum RMS Voltage		V_{RMS}	420	V
Maximum DC Blocking Voltage		V_{DC}	600	V
Maximum Average Forward Rectified Current	per diode	$I_{F(AV)}$	30	A
	per device		60	
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load per diode		I_{FSM}	200	A
Typical Thermal Resistance per diode		$R_{\theta JC}$ (1)	2	°C/W
Operating Junction Temperature Range		T_J	-55~175	°C
Storage Temperature Range		T_{STG}	-55~175	°C

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Electrical Characteristics (T_A = 25°C unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Instantaneous forward voltage	V_F	I_F = 1 A, T_J = 25°C	-	0.86	-	V
		I_F = 7.5 A, T_J = 25°C	-	1.21	-	
		I_F = 30 A, T_J = 25°C	-	1.57	2.2	
		I_F = 1 A, T_J = 125°C	-	0.62	-	
		I_F = 7.5 A, T_J = 125°C	-	0.95	-	
		I_F = 30 A, T_J = 125°C	-	1.37	-	
Reverse current	I_R	V_R = 600 V, T_J = 25°C	-	-	3	uA
		V_R = 600 V, T_J = 125°C	-	6.7		
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/us, T_J = 25°C	-	28	35	
		I_F = 30A, V_R = 400V, di/dt = 200A/us, T_J = 25°C	-	65	-	
Peak recovery current	I_{RRM}	I_F = 30A, V_R = 400V, di/dt = 200A/us, T_J = 25°C	-	4.6	-	A
Reverse recovery charge	Q_{RR}	I_F = 30A, V_R = 400V, di/dt = 200A/us, T_J = 25°C	-	192	-	nC

NOTES:

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

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TYPICAL CHARACTERISTIC CURVES

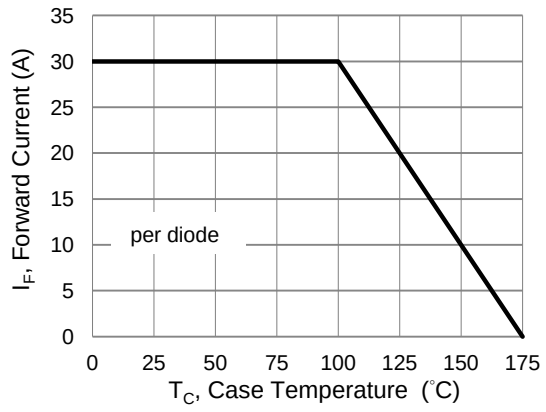

Fig.1 Forward Current Derating Curve

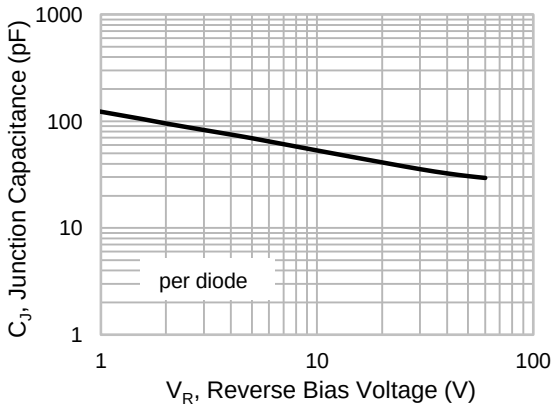

Fig.2 Typical Junction Capacitance

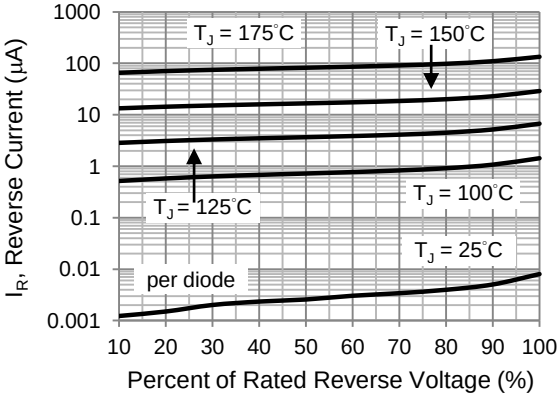

Fig.3 Typical Reverse Characteristics

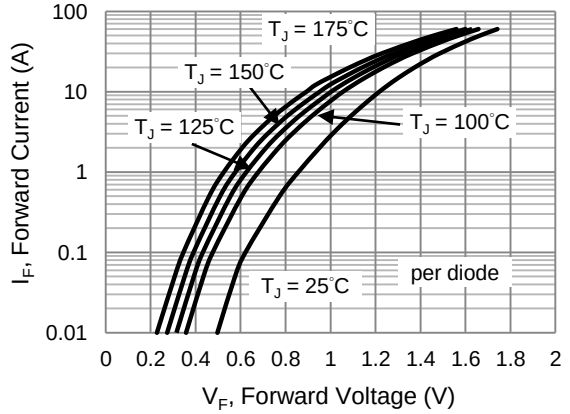

Fig.4 Typical Forward Characteristics

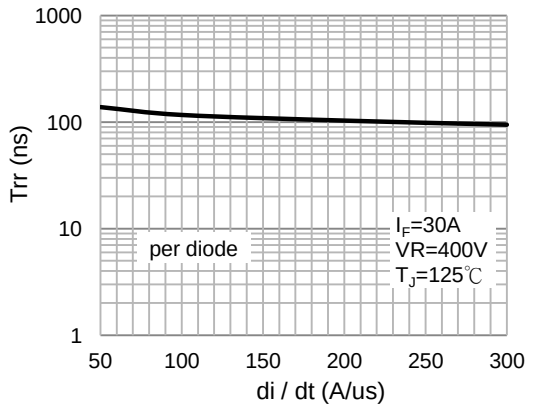

Fig.5 Typical Reverse recovery time versus di/dt

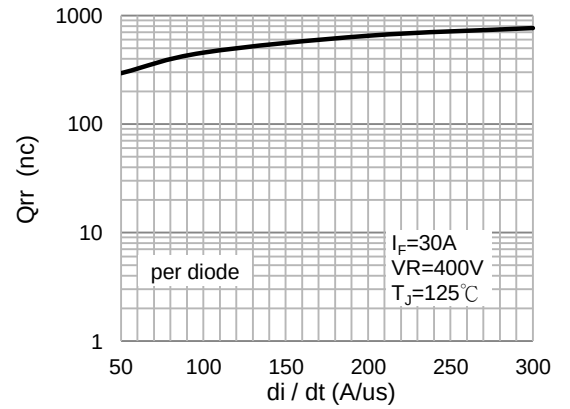

Fig.6 Typical Reverse recovery charges versus di/dt

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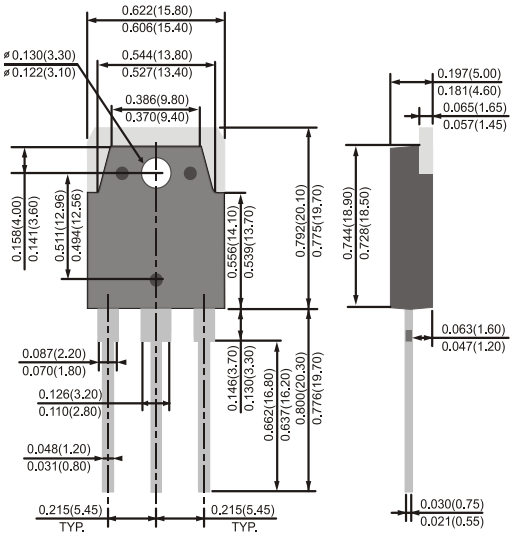
Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
QR60C06RT_T0_00001	TO-3PL	30pcs / tube	QR60C06RT	Halogen free

Packaging Information & Mounting Pad Layout

TO-3PL Dimension — Unit: inch(mm)



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