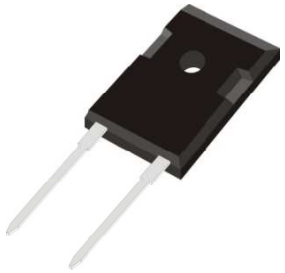
QRT3006P

PLANAR STRUCTURED SUPERFAST RECOVERY RECTIFIERS

Voltage	600 V	Current	30 A

TO-247AD 2L



Features

- Planar structure with EPI wafer
- Hyperfast recovery time, reduced Qrr and soft recovery
- Low leakage current
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
  Flame Retardant Epoxy Molding Compound
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case: TO-247AD 2L molded plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.183 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	$I_{F(AV)}$	30	A
Peak Forward Surge Current: 8.3 ms Single Half Sine-Wave Superimposed On Rated Load	I_{FSM}	320	A
Non-Repetitive Avalanche Energy (L=40mH)	E_{AS}	320	mJ
Typical Thermal Resistance	$R_{\theta JC}$ (1)	1.5	°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	-	0.82	-	V
		I_F = 8 A, T_J = 25 °C	-	1.35	-	
		I_F = 30 A, T_J = 25 °C	-	1.92	2.4	
		I_F = 1 A, T_J = 125 °C	-	0.58	-	
		I_F = 8 A, T_J = 125 °C	-	0.98	-	
		I_F = 30 A, T_J = 125 °C	-	1.48	-	
Reverse Current	I_R	V_R = 600 V, T_J = 25 °C	-	-	5	uA
		V_R = 600 V, T_J = 125 °C	-	21	-	
Reverse Recovery Time	T_{RR}	I_F = 0.5 A, I_R = 1 A, I_{RR} = 0.25 A, T_J = 25 °C	-	-	65	ns
		I_F = 1 A, V_R = 30 V, di/dt = 100 A/us, T_J = 25 °C	-	-	40	
		I_F = 30 A, V_R = 400 V, di/dt = 200 A/us, T_J = 25 °C	-	61	-	
Peak Recovery Current	I_{RRM}	I_F = 30 A, V_R = 400 V, di/dt = 200 A/us, T_J = 25 °C	-	2.7	-	A
Reverse Recovery Charge	Q_{RR}	I_F = 30 A, V_R = 400 V, di/dt = 200 A/us, T_J = 25 °C	-	81	-	nC
Softness Factor = t_b / t_a	S	I_F = 30 A, V_R = 400 V, di/dt = 200 A/us, T_J = 25 °C	-	1.58	-	-
		I_F = 30 A, V_R = 400 V, di/dt = 200 A/us, T_J = 125 °C	-	0.36	-	-

NOTES:

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

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TYPICAL CHARACTERISTIC CURVES

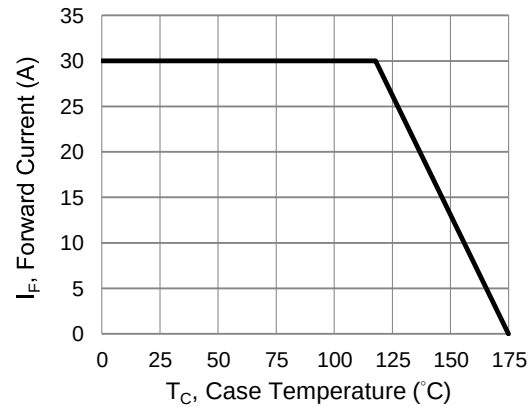


Fig.1 Forward Current Derating Curve

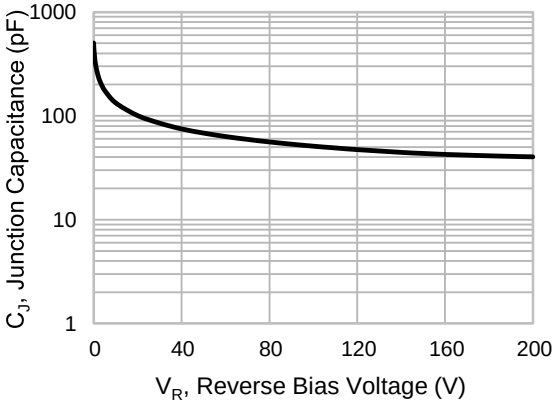


Fig.2 Typical Junction Capacitance

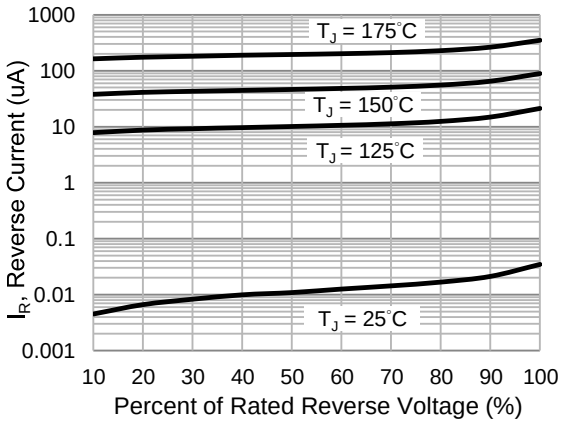


Fig.3 Typical Reverse Characteristics

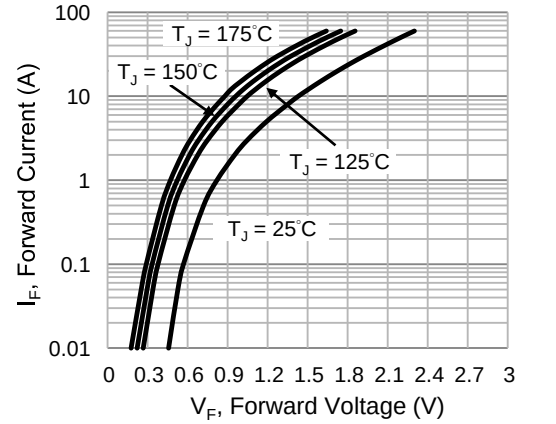


Fig.4 Typical Forward Characteristics

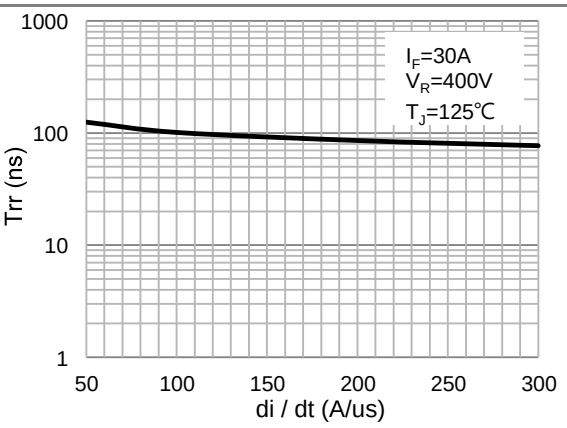


Fig.5 Typical Reverse Recovery Time Versus di/dt

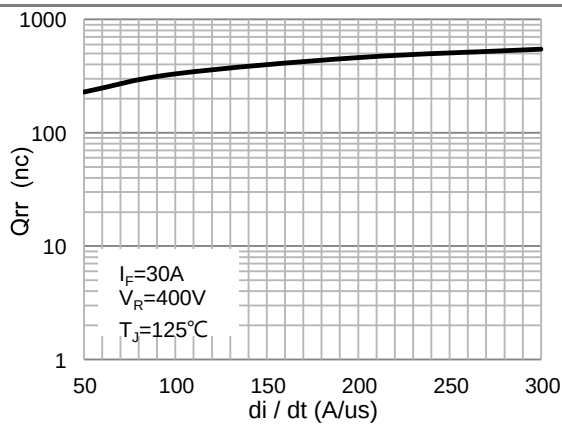


Fig.6 Typical Reverse Recovery Charges Versus di/dt

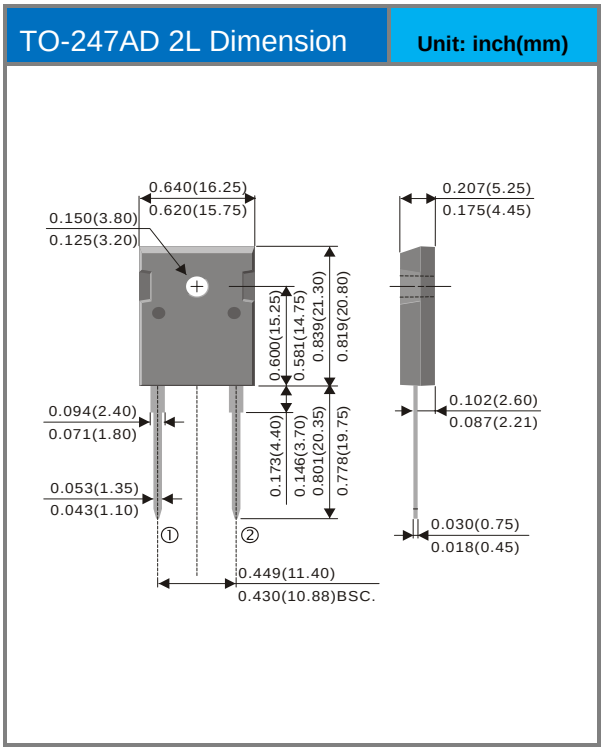
QRT3006P

Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
QRT3006P_T0_00001	TO-247AD 2L	30pcs / Tube	30A06	Halogen free

Packaging Information & Mounting Pad Layout

TO-247AD 2L Dimension | Unit: inch(mm)



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