QRT1006/QRT1006F/QRT1006D

PLANAR STRUCTURED SUPERFAST RECOVERY RECTIFIERS

VOLTAGE 600 Volt **CURRENT** 10 Ampere

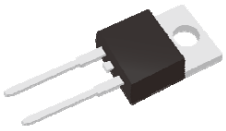
FEATURES

- Planar structure with EPI wafer
- Hyperfast recovery time, reduced Qrr and soft recovery
- For PFC 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

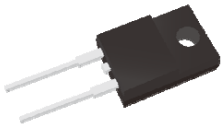
MECHANICAL DATA

- Case: TO-220AC, ITO-220AC, TO-263 package
- Terminals: Lead solderable per MIL-STD-750, Method 2026
- TO-220AC Weight: 0.065 ounces, 1.859 grams
- ITO-220AC Weight: 0.055 ounces, 1.5615 grams
- TO-263 Weight: 0.051 ounces, 1.46 grams

QRT1006 TO-220AC



QRT1006F ITO-220AC



QRT1006D TO-263

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	$I_{F(AV)}$	10	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	140	A
Typical thermal resistance TO-220AC(Note 1) ITO-220AC(Note 1) TO-263 (Note 1)	$R_{\Theta JC}$	2 5.5 2	°C/W
Operating junction temperature range	T_J	-55 to + 175	°C
Storage temperature range	T_{STG}	-55 to + 175	°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=10A	T_J=25°C	- - -	1.09 1.57 1.83	- - 2.35	V
		I_F=1A I_F=5A I_F=10A	T_J=125°C	- - -	0.73 1.12 1.38	- - 1.6	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	-	-	30	ns
		I_F=1A V_R=30V di/dt=100A/μs	T_J=25°C	-	-	25	ns
		I_F=10A V_R=400V di/dt=200A/μs	T_J=25°C	-	45	-	ns
Peak recovery current	I_{RRM}	I_F=10A V_R=400V di/dt=200A/μs	T_J=25°C	-	2	-	A
Reverse recovery charge	Q_{RR}	I_F=10A V_R=400V di/dt=200A/μs	T_J=25°C	-	50	-	nC

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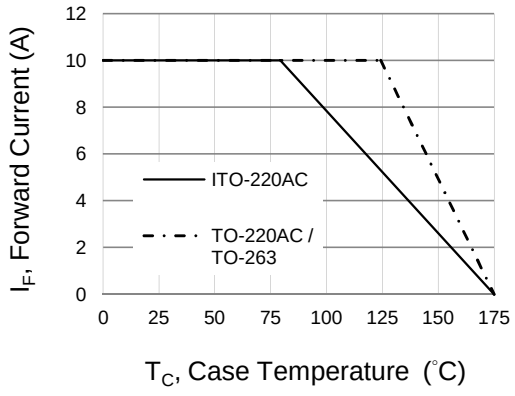


Fig.1 Forward Current Derating Curve

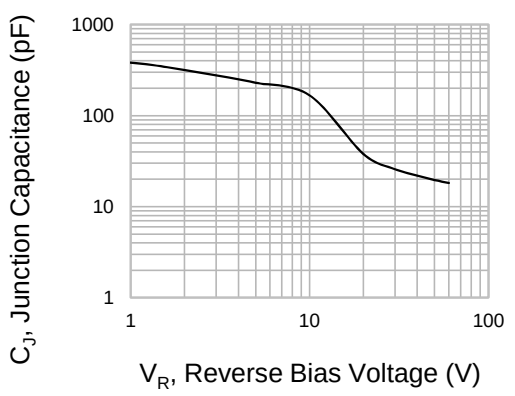


Fig.2 Typical Junction Capacitance

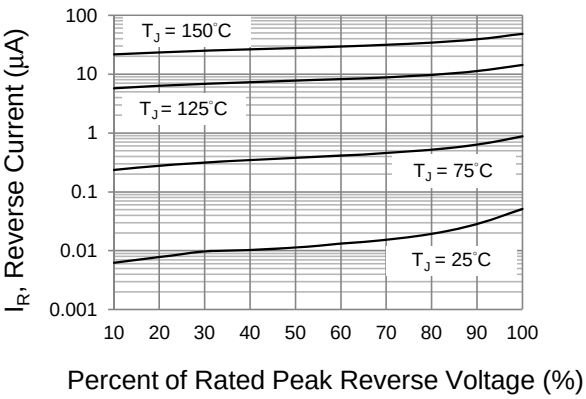


Fig.3 Typical Reverse Characteristics

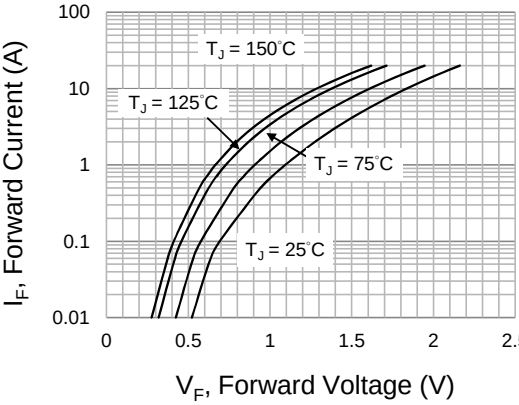


Fig.4 Typical Forward Characteristics

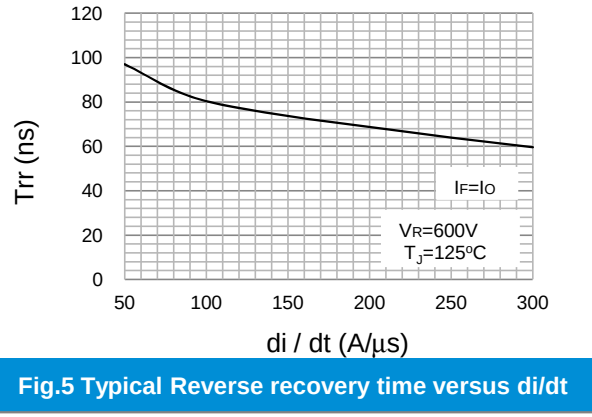


Fig.5 Typical Reverse recovery time versus di/dt

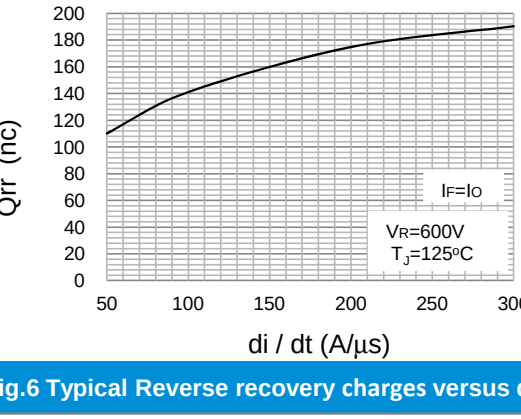
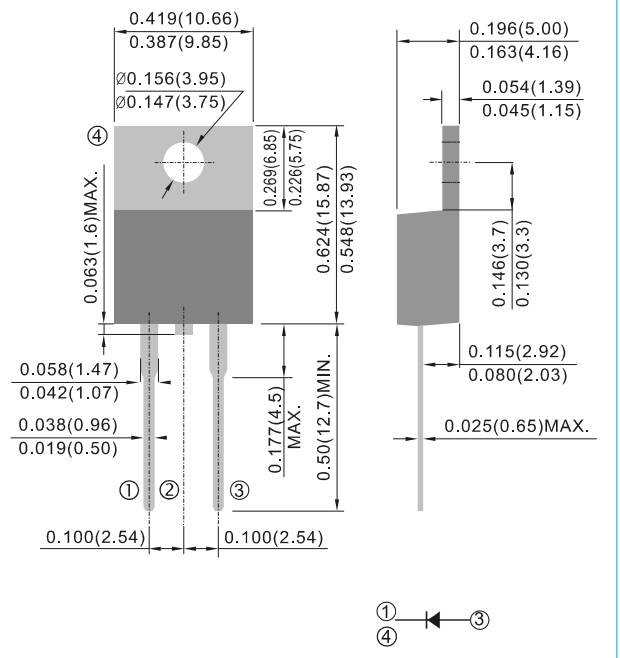


Fig.6 Typical Reverse recovery charges versus di/dt

QRT1006/QRT1006F/QRT1006D

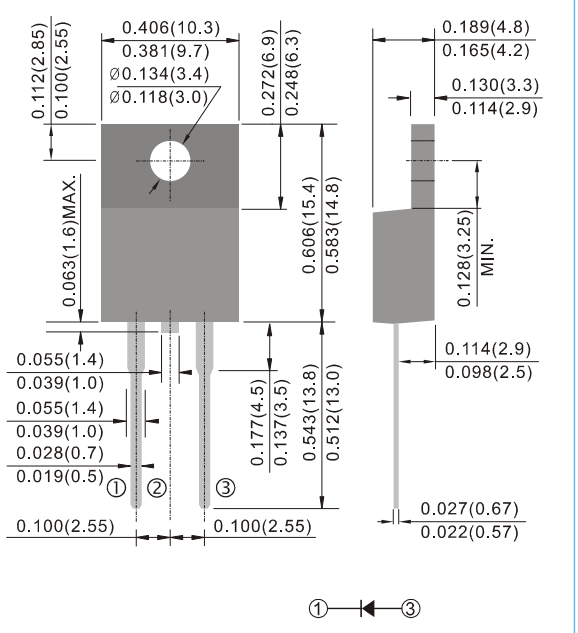
TO-220AC

Unit : inch(mm)



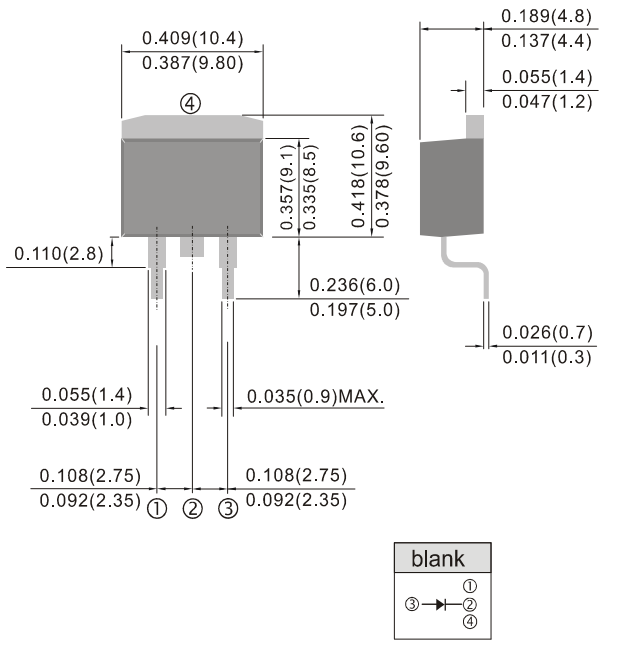
ITO-220AC

Unit : inch(mm)



TO-263 / D²PAK

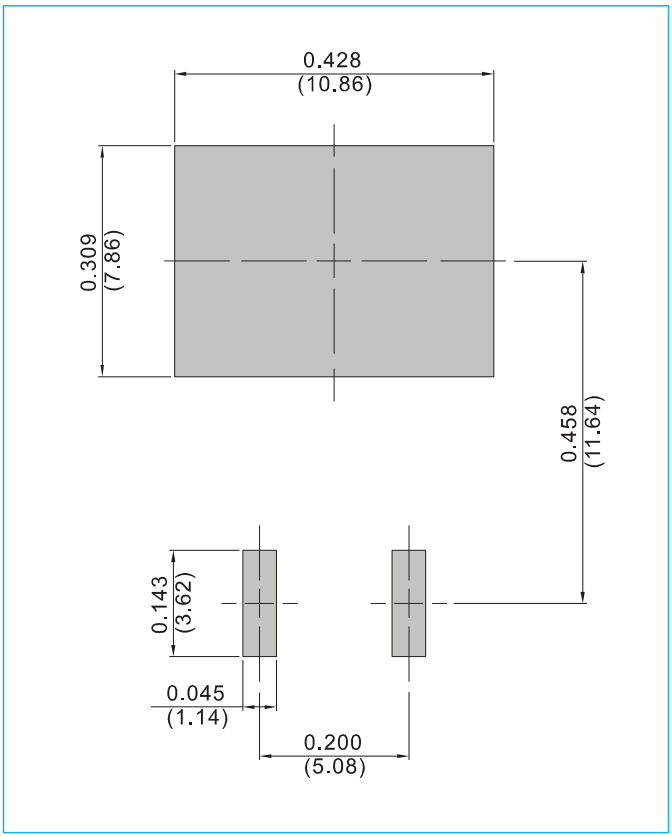
Unit : inch(mm)



QRT1006/QRT1006F/QRT1006D

MOUNTING PAD LAYOUT

TO-263 / D²PAK Unit：inch(mm)



ORDER INFORMATION

- Packing information

  T/R - 0.8K per 13" plastic Reel

QRT1006/QRT1006F/QRT1006D

Part No_packing code_Version

QRT1006_T0_00001
QRT1006_T0_10001
QRT1006F_T0_00001
QRT1006F_T0_10001
QRT1006D_R2_00001
QRT1006D_R2_10001

For example :

RB500V-40_R2_00001

Part No.

Serial number
Version code means HF
Packing size code means 13"
Packing type means T/R

Packing Code XX				Version Code XXXXX		
Packing type	1st Code	Packing size code	2nd Code	HF or RoHS	1st Code	2nd~5th Code
Tape and Ammunition Box (T/B)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			

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