SEMICONDUCTOR

MUR30120

POLYIMIDE PASSIVATED SUPER FAST RECTIFIER

Reverse Voltage - 1200 Volts
Forward Current - 30.0Amperes

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Ultrafast and soft recovery time for high efficiency
- Low VF ,Low power loss
- Polyimide passivation
- High surge capability
- Meets JESD 201 class 2 whisker test
- High temperature soldering guaranteed:260℃/10 seconds at terminals
- Component in accordance to RoHS 2015/863/EU

Pb
RoHS
COMPLIANT

TO-220AC
MUR30120

Mechanical Data

- Case: JEDEC TO-220AC molded plastic body
- Terminals: Lead solderable per MIL-STD-750,method 2026
- Polarity: As marked
- Mounting Position: Any

Typical Applications

For use in boost stage in SMPS
high frequency inverters for solar inverters
DC/DC converters
high frequency output rectification of battery chargers
free wheeling diodes in motor drivers

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	30.0A
V_R	1200V
I_{FSM}	300A
V_F at I_F=30.0A,125°C	1.50V
Trr typ	60ns
T_{JMAX}	175℃

Maximum Ratings

(Ratings at 25℃ ambient temperature unless otherwise specified)

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	1200	V
Maximum average forward rectified current	$I_{F(AV)}$	30.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated T_L)	I_{FSM}	300	A
Operating junction temperature range	T_J	-55 to+175	℃
Storage temperature range	T_{stg}	-55 to+175	℃

Electrical Characteristcs (TJ=25℃ Unless otherwise noted)

Parameter	Test Conditions		Symbol	Min.	Typ.	Max.	Unit
Breakdown voltage Blocking voltage	I_R=200μA		V_{BR} V_R	1200	-	-	V
Instaneous forward voltage	T_J=25℃	I_F=15.0A	V_F 1)	-	1.40	-	V
		I_F=30.0A		-	1.90	2.40	
	T_J=125℃	I_F=15.0A		-	1.20	-	
		I_F=30.0A		-	1.50	2.00	
Reverse current	T_J=25℃	V_R=1200V	I_R 2)	-	-	10	μA
	T_J=125℃			-	-	250	
Junction capacitance	4V,1MHz		C_j	-	124	-	pF

Notes: 1.Pulse test: 300 μs pulse width,1% duty cycle

2.Pulse test: pulse width≤40ms

Dynamic Recovery Characteristcs (TJ=25℃ Unless otherwise noted)

Parameter	Test Conditions	Symbol	Min.	Typ.	Max.	Unit
Reverse recovery time	I_F=0.5A,I_R=1.0A, Irr=0.25A	trr	-	60	70	ns

Thermal Characteristcs

Parameter	Symbol	TO-220AC	Unit
Typical thermal resistance 3)	RθJC	1.0	℃/W

3.Thermal resistance from junction to case

Availabale Pack Information

Product code	Pack	Carton Size L×W×H(mm)	Inner Box Size L×W×H(mm)	Tube Length (mm)	Inner Box Number	Tube Number Per A Inner Box	Part Number Per A Tube	Quantity(carton) (K)
MUR30120-TO-220AC	Tube	565×225×170	548×151×37	540	5	20	50	5

Fig.1-Forward Current Derating Curve

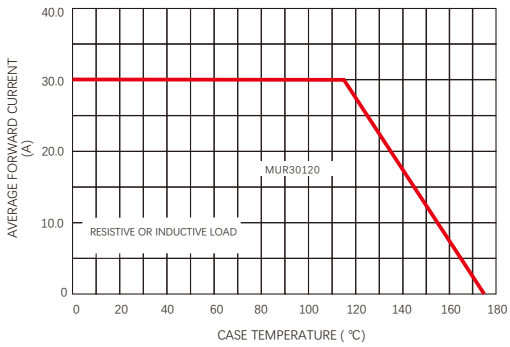


Fig.2-Maximum Non-repetitive Peak Forward Surge Current

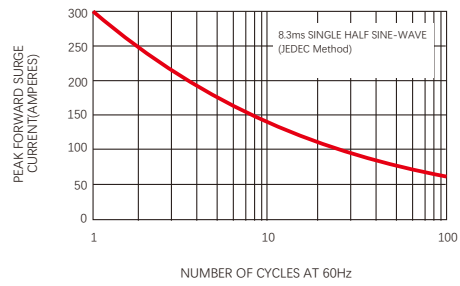


Fig.3-Typical Instantaneous Forward Characteristics

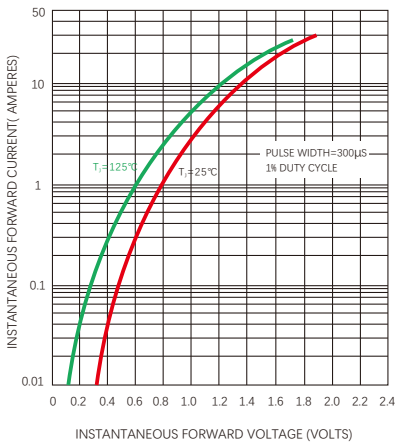


Fig.4-Typical Reverse Characteristics

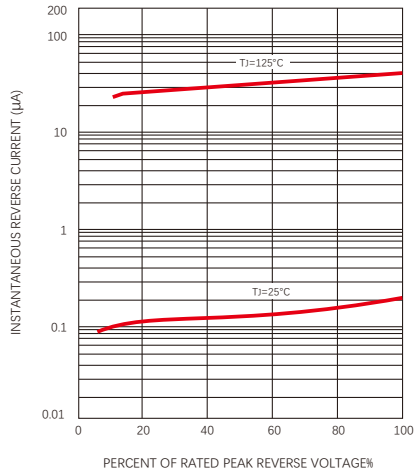
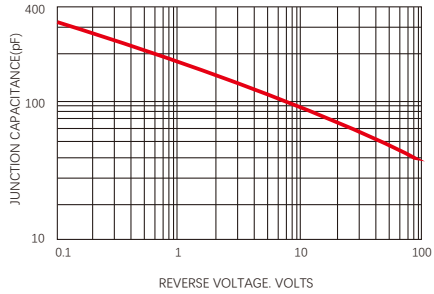
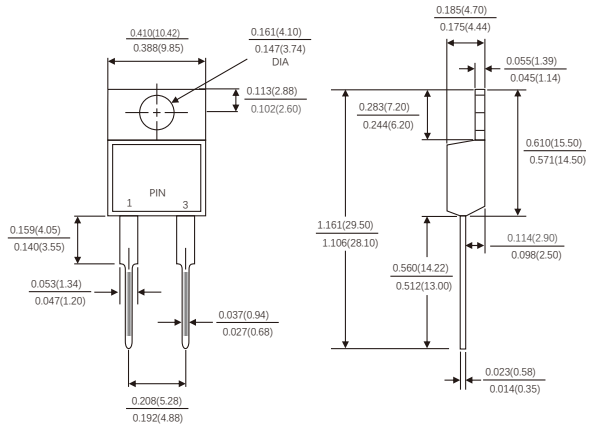


Fig.5-Typical Junction Capacitance



TO-220AC



Dimensions in inches and (millimeters)

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