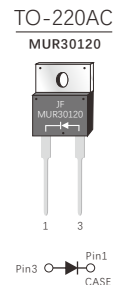


FEATURES

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



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 $I_F=30.0A, 125^\circ C$	1.50V
$T_{rr typ}$	60ns
T_{JMAX}	175°C

MAXIMUM RATINGS

(Ratings at 25°C ambient temperature unless otherwise specified)

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	600	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_J)	I_{FSM}	300	A
Operating junction temperature range	T_J	-55 to +175	°C
Storage temperature range	T_{STG}	-55 to +175	°C

RATINGS AND CHARACTERISTIC OF MUR30120

ELECTRICAL CHARACTERISTICS (T_J=25°C 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°C	I _f =15.0A	V _F ¹⁾	-	1.40	-	V
		I _f =30.0A		-	1.90	2.40	
	T _J =125°C	I _f =15.0A		-	1.20	-	
		I _f =30.0A		-	1.50	2.00	
Reverse current	T _J =25°C	V _r =1200V	I _R ²⁾	-	-	10	μA
	T _J =125°C			-	-	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 CHARACTERISTICS (T_J=25°C Unless otherwise noted)

Parameter	Test Conditions	Symbol	Min.	Typ.	Max.	Unit
Reverse recovery time	I _F =0.5A,I _R =1.0A, I _{rr} =0.25A	t _{rr}	-	60	70	ns

RATINGS AND CHARACTERISTIC OF MUR30120

THERMAL CHARACTERISTICS

Parameter	Symbol	TO-220AC	Unit
Typical thermal resistance ³⁾	$R_{\theta jc}$	0.8	°C/W

3. Thermal resistance from junction to case

AVAILABLE PACK INFORMATION

Product code	Pack	Box Size L×W×H(mm)	Quantity(pcs/box)	Carton Size L×W×H(mm)	Quantity(box/carton)
MUR30120-TO-220AC	P/T	558×148×38	1000	565×225×170	5

FIG.1-FORWARD CURRENT DERATING CURVE

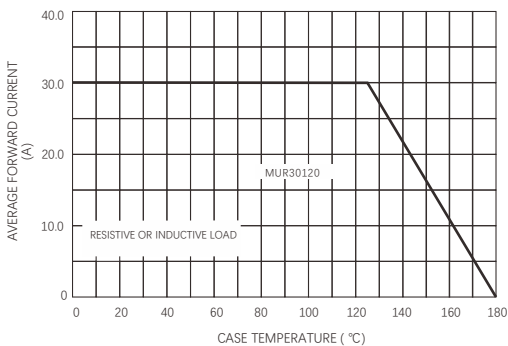
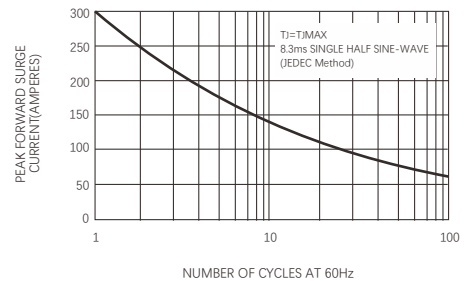


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



RATINGS AND CHARACTERISTIC OF MUR30120

FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

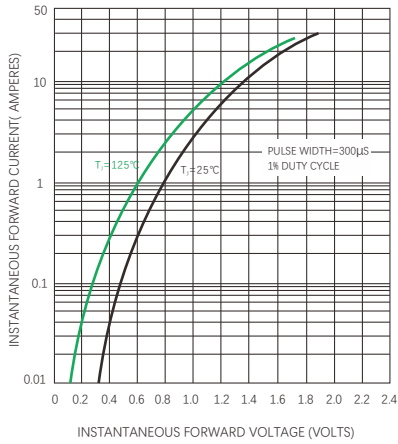


FIG.4-TYPICAL REVERSE CHARACTERISTICS

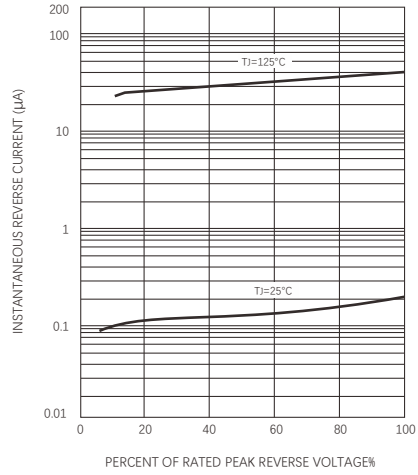
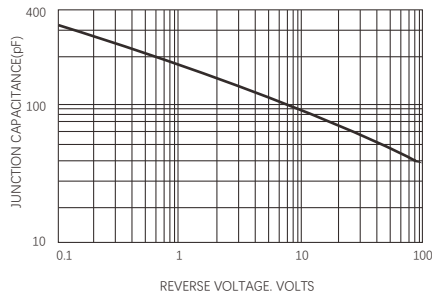
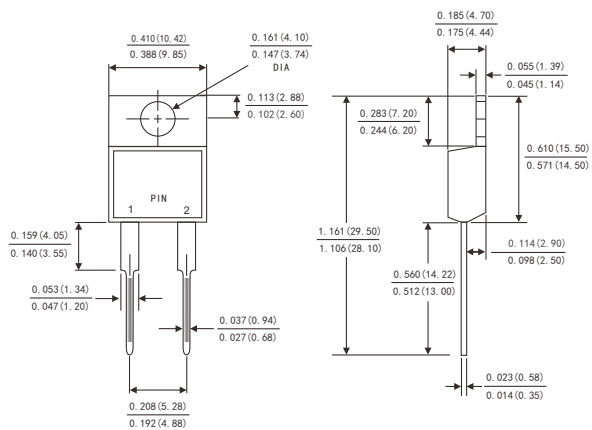


FIG.5-TYPICAL JUNCTION CAPACITANCE



PACKAGE OUTLINE DIMENSIONS

TO-220AC



Dimensions in inches and (millimeters)

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