SEMICONDUCTOR

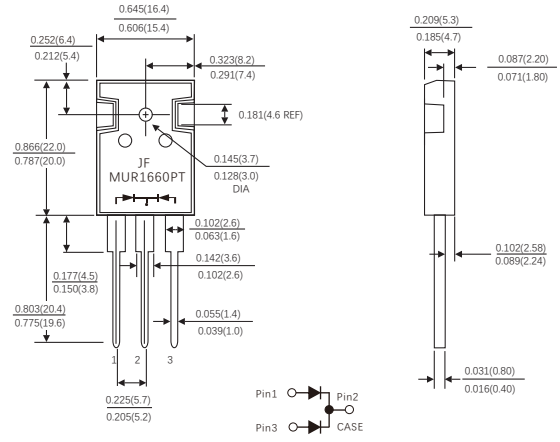
MUR1660PT

POLYIMIDE PASSIVATED SUPER FAST RECTIFIER
Reverse Voltage-600Volts
Forward Current:16.0Ampers

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
- High temperature soldering guaranteed:260℃/10s at terminals
- Component in accordance to RoHS 2015/863/EU

TO-247AB



Dimensions in inches and (millimeters)

MECHANICAL DATA

- Case: JEDEC TO-247AB molded plastic body
- Terminals: Lead solderable per MIL-STD-750.method 2026
- Polarity: As marked
- Mounting Position: Any
- weight: 2.24g(Approx.)

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

MAXIMUM RATINGS

(Ratings at 25℃ ambient temperature unless otherwise specified)

Parameters	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	600	V
Maximum average forward rectified current	$I_{F(AV)}$	Per Leg:8.0 Total:16.0	A
Peak forward surge current 8.3mS single half sine-wave superimposed on rated load (JEDEC method,Total device)	I_{FSM}	150	A
Operating junction temperature range	T_J	-55 to 175	℃
Storge temperature range	Tstg	-55 to 175	℃

ELECTRICAL CHARACTERISTCS(T_A=25℃ Unless otherwise noted)

Parameters	Test Conditions		Symbol	Min.	Typ.	Max.	Units
Breakdown voltage Blocking voltage	I_R=200μA		V_{BR} V_R	600	-	-	V
Instaneous forward voltage	T_J=25℃	I_F=1.0A	V_F 1)	-	0.97	-	V
		I_F=3.0A		-	1.10	-	
		I_F=8.0A		-	1.25	1.50	
	T_J=125℃	I_F=1.0A		-	0.76	-	
		I_F=3.0A		-	0.92	-	
		I_F=8.0A		-	1.12	-	
Reverse current	T_J=25℃	V_R=600V	I_R 2)	-	-	5	μA
	T_J=125℃			-	-	50	μA
	T_J=150℃			-	-	250	
Junction capacitance	4V,1MHz		C_J	-	23	-	pF

Notes: 1.Pulse Test:300μS pulse width,1% duty cycle

2.Pulse test:pulse width≤40ms

DYNAMIC RECOVERY CHARACTERISTCS (T_J=25℃)

Parameters	Test Conditions	Symbol	Min.	Typ.	Max.	Units
Reverse recovery time	I_F=0.5A,I_R=1A,I_{RR}=0.25A	trr	-	28	35	ns

THERMAL CHARACTERISTICS

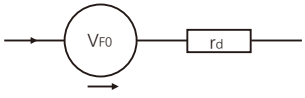
Parameter	Symbol	TO-247AB	Unit
Typical thermal resistance 3)	$R_{\theta JC}$	1.50	℃/W

3. Thermal resistance from junction to case

AVAILABLE 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)
MUR1660PT-TO-247AB	Tube	575×220×170	560×145×40	500	5	12	30	18

Equivalent circuits for forward power loss calculation



V_{F0}: threshold voltage 1.05V

rd: Dynamic resistance 0.033Ω

Forward power loss of diode=$V_{F0}\times I_{F(AV)}+rd\times I^2_{F(RMS)}$

FIG.1-FORWARD CURRENT DERATING CURVE

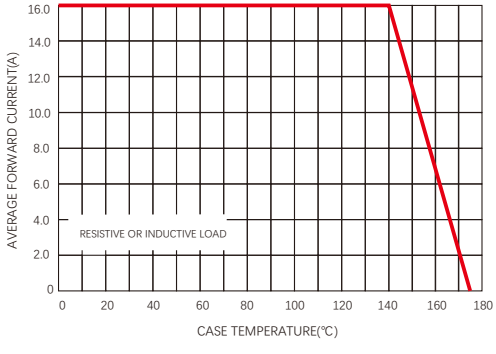


FIG2.-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

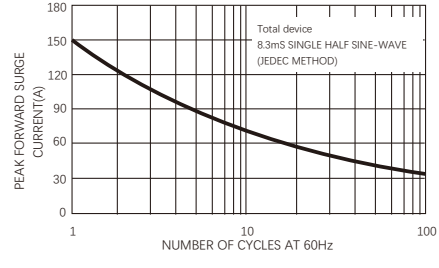


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

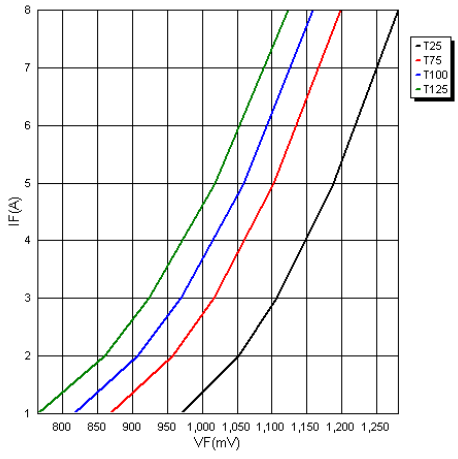


FIG.4-TYPICAL REVERSE CHARACTERISTICS

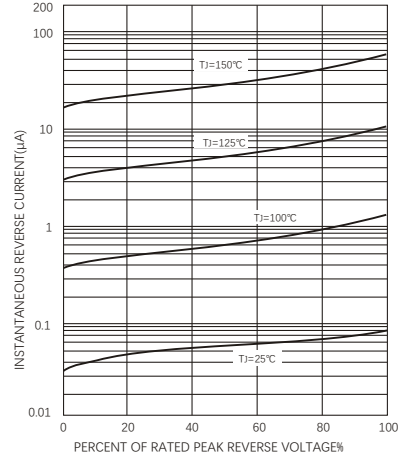
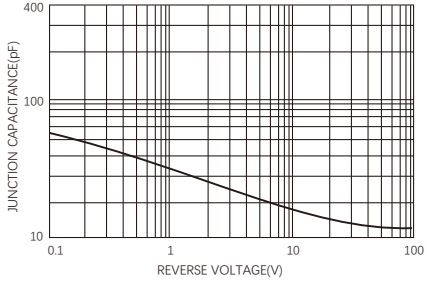


FIG.5-TYPICAL JUNCTION CAPACITANCE



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