SEMICONDUCTOR

MURS3060 \MURFS3060\MURS3060D2

POLYIMIDE PASSIVATED SUPER FAST RECTIFIER

Reverse Voltage - 600 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
MURS3060

Pin1
CASE
Pin3

ITO-220AC
MURFS3060

Pin1
Pin3

TO-263 (D²PAK)
MURS3060D2

Pin2
Heatsink
Pin3

MECHANICAL DATA

- Case: JEDEC TO-220AC、 ITO-220AC、 TO-263(D²PAK) 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	600V
I_{FSM}	300A
V_F at I_F=30.0A,125°C	1.50V
Trr typ	30ns
T_{JMAX}	150℃

MAXIMUM RATINGS

(Ratings at 25℃ 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_L)	I_{FSM}	300	A
Operating junction temperature range	T_J	-55 to+150	℃
Storage temperature range	T_{stg}	-55 to+150	℃

ELECTRICAL CHARACTERISTCS（T_J=25℃ Unless otherwise noted）

Parameter	Test Conditions		Symbol	Min.	Typ.	Max.	Unit
Breakdown voltage Blocking voltage	IR=200μA		V_{BR} V_R	600	–	–	V
Instaneous forward voltage	T_J=25℃	I_F=15.0A	V_F 1)	–	1.50	–	V
		I_F=30.0A		–	1.90	2.40	
	T_J=125℃	I_F=15.0A		–	1.20	–	
		I_F=30.0A		–	1.60	2.00	
Reverse current	T_J=25℃	V_R=600V	I_R 2)	–	1	10	μA
	T_J=125℃			–	50	250	

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	-	30	40	ns

THERMAL CHARACTERISTCS

Parameter	Symbol	TO-220AC TO-263	ITO-220AC	Unit
Typical thermal resistance 3)	RθJC	1.0	2.5	℃/W

3.Thermal resistance from junction to case

FIG.1-FORWARD CURRENT DERATING CURVE

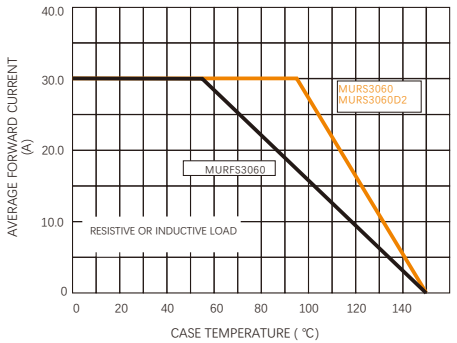


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

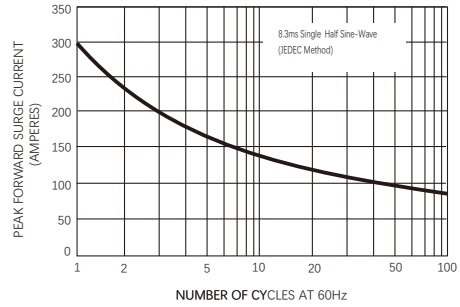


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

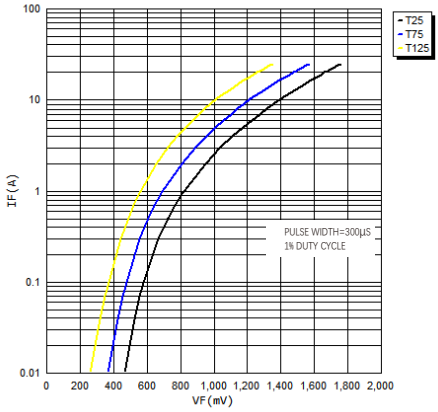
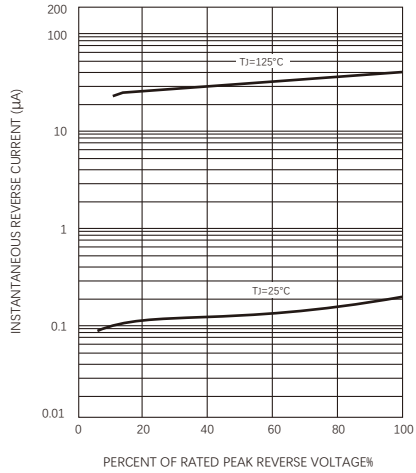
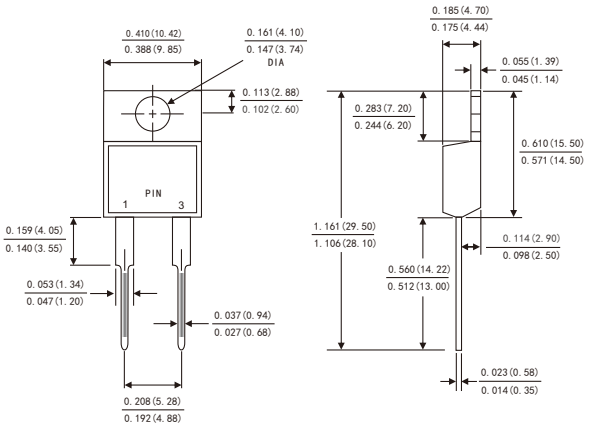


FIG.4-TYPICAL REVERSE CHARACTERISTICS

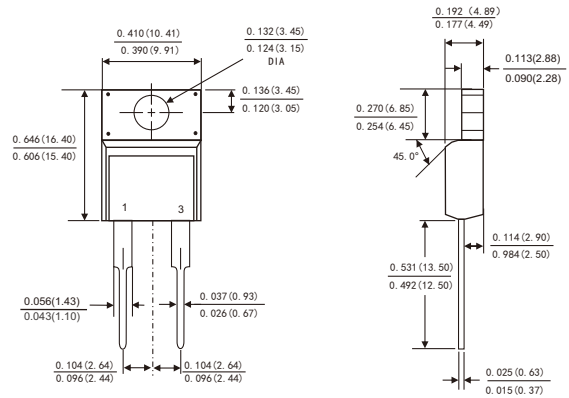


Dimensions in inches and (millimeters)

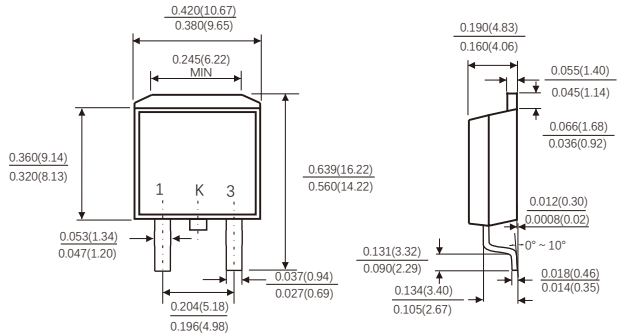
TO-220AC



ITO-220AC

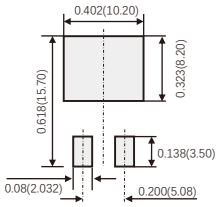


TO-263



Suggested Pad Layout

(TO-263)



（对于TO263，设计者可参考推荐值根据焊接工艺要求自行确定适合的焊盘尺寸）
(For TO-263，Designers can refer to the recommended values according to the manufacturing process requirements to determine the appropriate pad size)

Friendship Reminder

- JiNan JingHeng （hereinafter referred to as JH） reserves the right to make changes to this document and its products and specifications at anytime without notice.
- Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.
- JH makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does JH assume any liability for application assistance or customer product design.
- JH does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.
- No license is granted by implication or otherwise under any intellectual property rights of JH.
- JH’s products are not authorized for use as critical components in life support devices or systems without express written approval of JH.