

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°C/10s at terminals
- Component in accordance to RoHS 2015/863/EU



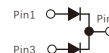
TO-220AB

MUR2040CT



ITO-220AB

MURF2040CT



TO-263

MUR2040D1



Mechanical Data

- Case: JEDEC TO-220AB, ITO-220AB, TO-263
- Molding compound meets UL94V-0 flammability rating
- Terminals: Lead solderable per J-STD-002 and JESD22-B102
- Polarity: As marked
- Mounting Torque: 10 in-lbs maximum

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°C ambient temperature unless otherwise specified)

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	400	V
Maximum average forward rectified current (see fig.1)	Per leg	10.0	A
	Total device	20.0	
Surge non repetitive forward current tp=8.3ms sinusoidal	I _{FSM}	200	A
Maximum operating junction temperature	T _J	175	°C
Storage temperature range	T _{stg}	-55 to +175	°C

PRIMARY CHARACTERISTICS	
I _{F(AV)}	2*10A
V _{RRM}	400V
I _{FSM}	200A
V _F at I _F =10.0A(125°C)	1V
I _R	5μA
T _{J(MAX)}	175°C
Diode variations	Common cathode

Electrical Characteristics (Per Leg, $T_j=25^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Test Conditions		Symbol	Min.	Typ.	Max.	Unit
Breakdown voltage Blocking voltage	IR=200 μ A		V_{BR} V_R	400	-	-	V
Instaneous forward voltage	$T_j=25^\circ\text{C}$	IF=5.0A	$V_F^{1)}$	-	0.99	-	V
		IF=10.0A		-	1.10	1.30	
	$T_j=125^\circ\text{C}$	IF=5.0A		-	0.85	-	
		IF=10.0A		-	1.00	1.20	
Reverse current	$T_j=25^\circ\text{C}$	$V_R=400\text{V}$	$I_R^{2)}$	-	-	5	μA
	$T_j=125^\circ\text{C}$			-	-	250	
Junction capacitance	4V,1MHz		CJ	-	50	-	pF

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

2.Pulse test: pulse width \leq 40ms

Dynamic Recovery Characteristics (Per Leg, $T_j=25^\circ\text{C}$ Unless otherwise noted)

Parameter	Test Conditions	Symbol	Min.	Typ.	Max.	Unit
Reverse recovery time	IF=0.5A,IR=1.0A, Irr=0.25A	trr	-	30	35	ns

Thermal Characteristics

Parameter	Symbol	TO-220AB	ITO-220AB	TO-263	Unit
Typical thermal resistance ³⁾	R _{θc}	1.3	2.5	1.3	°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)
MUR2040CT-TO-220AB	P/T	558×148×38	1000	565×225×170	5
MURF2040CT-ITO-220AB	P/T	558×148×38	1000	565×225×170	5
MUR2040D1-TO-263	P/T	558×148×38	1000	565×225×170	5

Fig.1-Forward Current Derating Curve

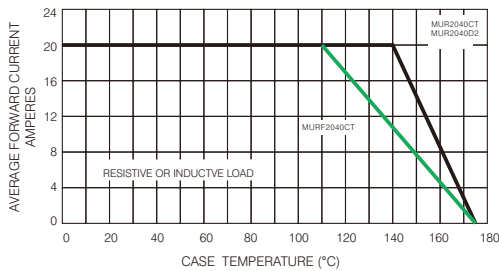


Fig.2-Maximum Non-repetitive Peak Forward Surge Current

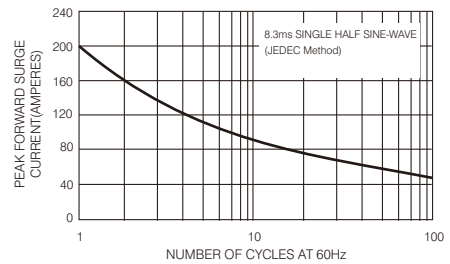


Fig.3-Typical Instantaneous Forward Characteristics

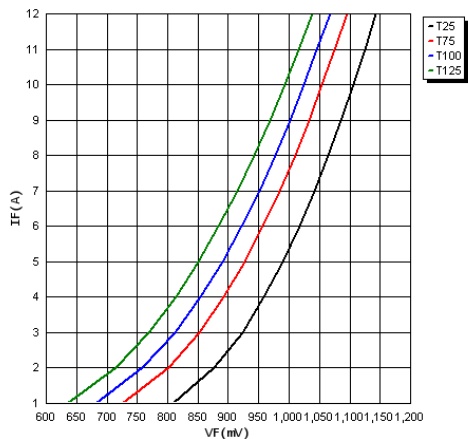


Fig.4-Typical Reverse Characteristics

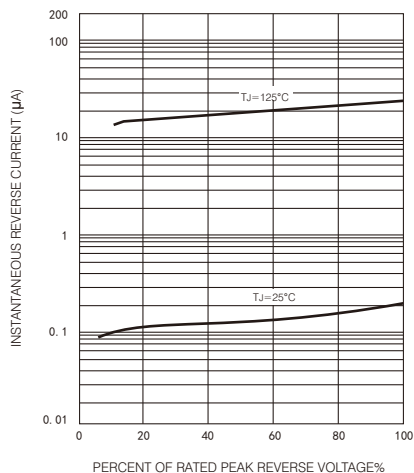
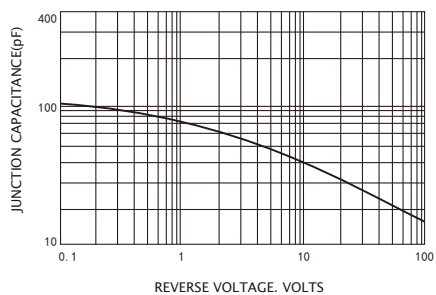
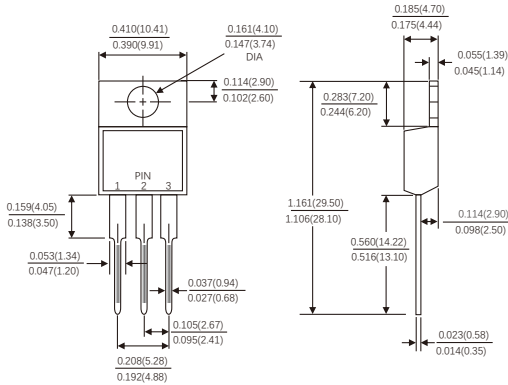


Fig.5-Typical Junction Capacitance

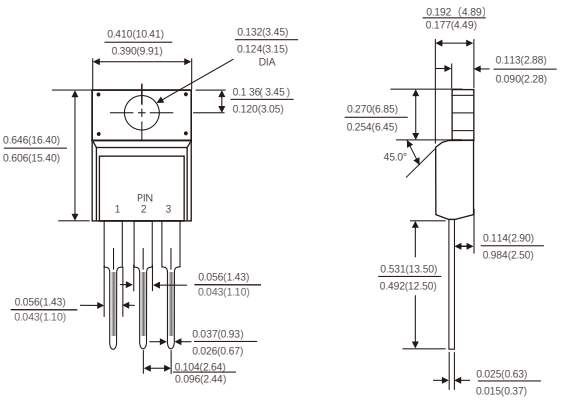


Dimensions in inches and (millimeters)

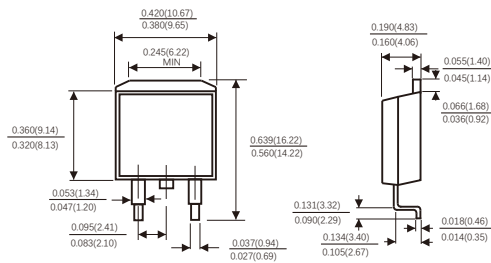
TO-220AB



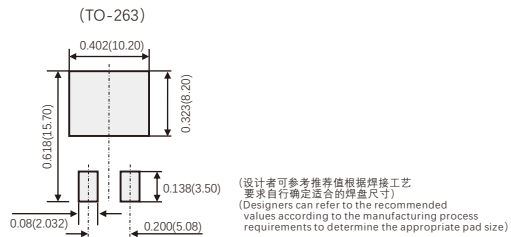
ITO-220AB



TO-263



Suggested Pad Layout



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.
济南晶恒（以下简称JH）保留，未经通知变更本文件和与本文件相关的产品及规格的权利。
- Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.
使用方应在使用、采购本产品之前获取并确认产品信息和规格书的最新版本。
- 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对其产品用于某特定用途的适用性，既不做任何保证、说明或担保、也不承担任何应用协助或使用方设计的法定责任。
- JH does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.
JH不保证或承担任何责任，其产品被采购使用于任何非预期或授权的应用。
- No license is granted by implication or otherwise under any intellectual property rights of JH.
此规格书属于JH的知识产权,没有经过我司授权不得抄袭。
- JH's products are not authorized for use as critical components in life support devices or systems without express written approval of JH.
没有JH的书面授权，JH的产品不能在生命支撑设备或系统里作为关键零件使用。