

MUR2040xx

Ultra Fast Recovery Rectifiers

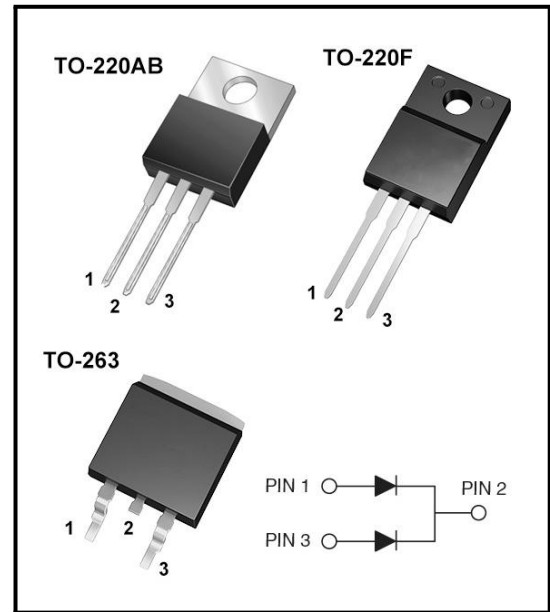
Features

- High speed switching capability
- High current capability
- High forward surge capability
- Low power losses, High efficiency
- High reliability
- For use in low voltage, high frequency inverters

Applications

Fast recovery diode, mainly used for rectification, used in high-equipment, The express and ultrafast recovery diodes are suitable high frequency and ultra high frequency circuits, respectively.

Package



Mechanical Data

- Molded Plastic: UL Flammability Classification Rating 94V-0
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Solder bath temperature 275°C maximum, 10s per JESD 22-B106
- Case: Molded plastic
- Polarity: As marked
- Mounting Position: Any

Ordering information

Part Number	Package	Base Quantity	Delivery mode
MUR2040CT	TO-220AB	50 pcs / tube	1000pcs/box 5000pcs/carton
MUR2040FCT	TO-220F	50 pcs / tube	1000pcs/box 5000pcs/carton
MUR2040BCT	TO-263	50 pcs / tube	1000pcs/box 5000pcs/carton
MUR2040BCT-R	TO-263	800 pcs / reel	800pcs/box 4000pcs/carton



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Maximum Ratings (@T_A=25°C unless otherwise noted)

Symbol	Parameters	Value	Unit
V _{RRM}	Maximum Repetitive Peak Reverse Voltage	400	V
V _{RWM}	Working Peak Reverse Voltage	400	V
V _{DC}	Maximum DC Blocking Voltage	400	V
I _O	Maximum Average Forward Rectified Current	20	A
I _{FSM}	Non-repetitive Peak Forward Surge Current 8.3ms Single half-sine-wave	160	A
R _{θJC}	Typical Thermal Resistance ¹	TO-220AB, TO-263	°C/W
		TO-220F	
T _J	Operating Junction Temperature Range	150	°C
T _{STG}	Storage Temperature Range	-55 to +150	°C

Note1: Thermal resistance from Junction to case per leg mounted on heatsink.

Electrical Characteristics (@T_A=25°C unless otherwise noted)

Symbol	Parameters	Text Condition		Typ	Max	Unit
V _F	Forward Voltage Drop ²	at I _F =20A	T _A = 25°C	1.25	1.5	V
			T _A = 125°C	0.95	–	
I _R	Maximum Reverse Current	V _R =400V	T _A = 25°C	–	2	uA
			T _A = 125°C	5	–	
T _{rr}	Maximum Reverse Recovery Time	I _F =0.5A, I _R =1A, I _{RR} =0.25A	–	28	40	ns

Note2: Pulse test:300 μs pulse width,1% duty cycle.



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Typical Performance Characteristics($T_J = 25^\circ\text{C}$, unless otherwise noted)

Figure 1: Max. Forward Current Derating Curve

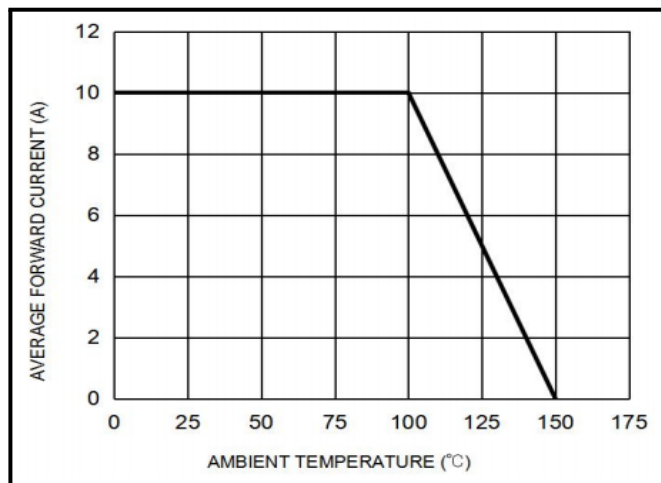


Figure 2: Max. Non-Repetitive Forward Surge Current

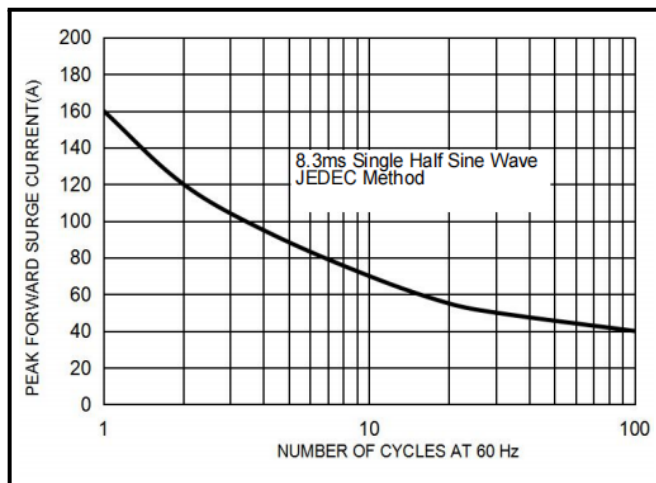


Figure 3: Typical Forward Characteristics

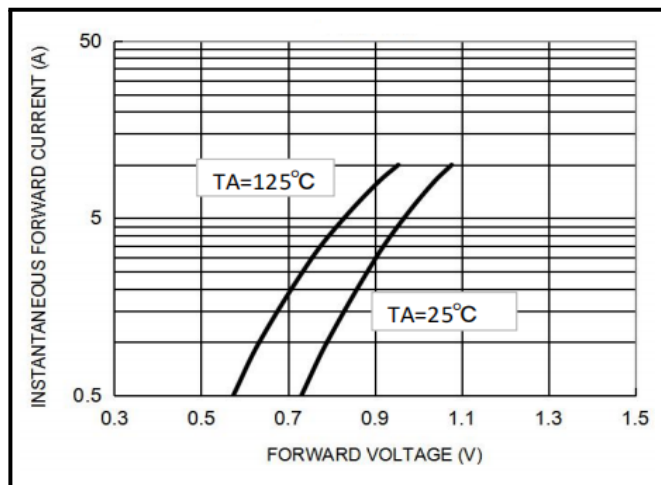
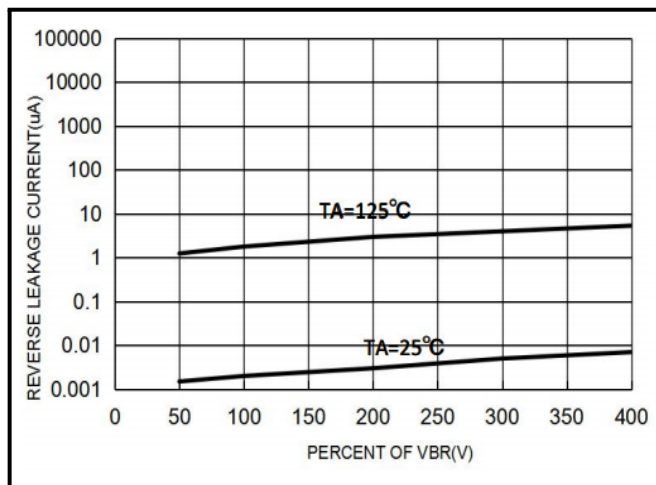


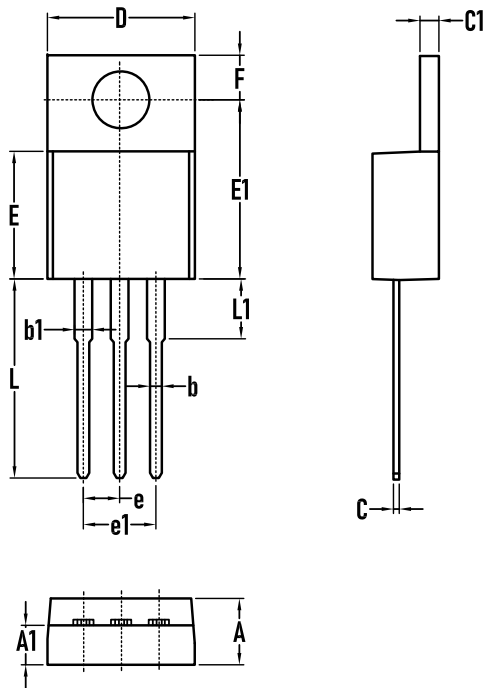
Figure 4: Typical Reverse Characteristics



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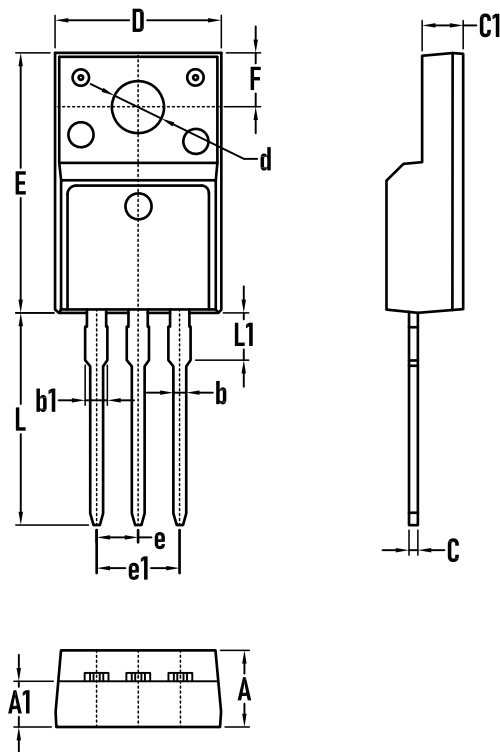
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Packaging Tape - TO-220AB



Symbol	Millimeters		
	MIN.	TYP.	MAX.
A	4.30	4.50	4.70
A1	2.52	2.67	2.82
b	0.71	0.81	0.91
b1	1.17	1.27	1.37
C	0.30	0.40	0.50
C1	1.17	1.27	1.37
D	9.90	10.00	10.20
E	8.50	8.70	8.90
E1	12.00	12.25	12.50
e	2.44	2.54	2.64
e1	4.88	5.08	5.26
F	2.60	2.75	2.80
L	13.00	13.50	14.00
L1	3.80	4.00	4.20

Packaging Tape - TO-220F



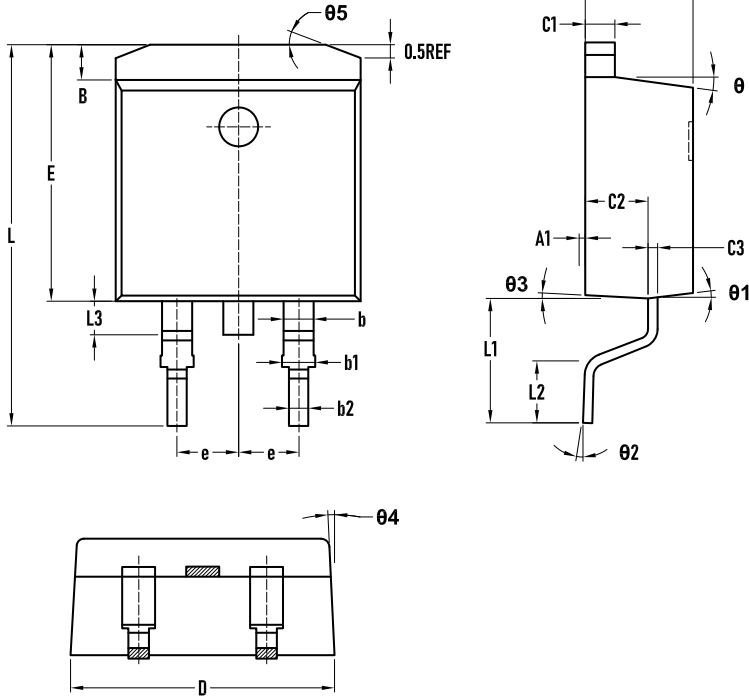
Symbol	Millimeters		
	MIN.	TYP.	MAX.
A	4.30	4.60	4.80
A1	2.70	2.80	2.90
b	0.70	0.80	0.90
b1	1.20	1.30	1.40
C	0.40	0.50	0.60
C1	2.40	2.60	2.80
D	9.90	10.00	10.20
E	15.20	15.60	16.00
e	2.44	2.54	2.64
e1	4.88	5.08	5.26
F	3.00	3.30	3.60
L	12.70	13.20	13.70
L1	2.70	2.90	3.10
d	3.10	3.20	3.30



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Packaging Tape - TO-263



Symbol	Millimeters		
	MIN.	TYP.	MAX.
A1	0	—	0.25
B	1.32	1.37	1.42
b	—	1.27	—
b1	1.30	1.40	1.45
b2	—	0.81	—
C	4.52	4.57	4.62
C1	—	1.27	—
C2	2.64	2.69	2.74
C3	—	0.38	—
D	10.11	10.16	10.21
E	10.02	10.07	10.12
e	—	2.54	—0
L	14.65	14.95	15.25
L1	4.60	4.90	5.20
L2	2.25	2.45	2.65
L3	1.10	1.30	1.50
θ	6°	7°	8°
θ1	6°	7°	8°
θ2	0°	—	8°
θ3	2°	3°	4°
θ4	2°	3°	4°
θ5	—	—	20°

