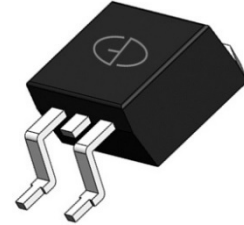


20A,400V Ultrafast Recovery Rectifier

Features

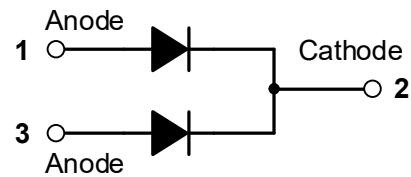
- FRED Wafer Construction
- Low forward drop voltage, low power loss
- High Surge Current Capability
- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21



TO-263AB(D²PAK)

Applications

- SMPS
- Adapter
- Server Power



Mechanical Data

- Case: Epoxy, Molded
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 sec
- Shipped 50 units per plastic tube or tape reel packing 800/reel

Maximum Ratings & Electrical Characteristics (T_A=25°C unless otherwise noted)

Parameter	Symbol	MURB2040CT	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	400	V
Working peak reverse voltage	V _{RWM}	400	V
Maximum DC blocking voltage	V _{DC}	400	V
Maximum average forward rectified current	I _{F(AV)}	20	A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode	I _{FSM}	100	A
Voltage rate of change (rated V _R)	dv/dt	10000	V/μS
Operating junction temperature range	T _J	-55 to +150	°C
Storage temperature range	T _{STG}	-55 to +150	°C

Electrical Specifications (T _A =25°C unless otherwise noted)					
Parameter	Symbol	Test Conditions	Typ	Max	Unit
Forward drop voltage (Note1)	V _F	I _F =10A, T _J =25°C	1.25	1.50	V
		I _F =10A, T _J =125°C	-	1.40	
		I _F =20A, T _J =25°C	-	-	
		I _F =20A, T _J =125°C	-	-	
Reverse leakage current @V _R (Note2)	I _R	T _J =25°C	-	10	uA
		T _J =100°C	-	500	
Reverse recovery time	t _{rr}	I _F =0.5A, I _R =1.0A, I _{RR} =0.25A	-	35	ns

Thermal-Mechanical Specifications (T _A =25°C unless otherwise noted)			
Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Case	R _{θJC}	2.0	°C /W
Thermal Resistance, Junction to Ambient	R _{θJA}	62.5	°C /W

Note:

1. Pulse test with PW=0.3ms, duty cycle=2%
2. Pulse test with PW=30ms

Ratings and Characteristics Curves

($T_A = 25^\circ\text{C}$ unless otherwise noted)

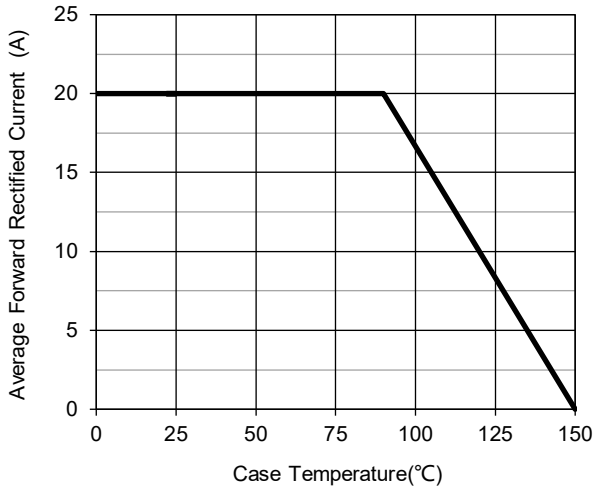


Fig.1 – Forward Current Derating Curve

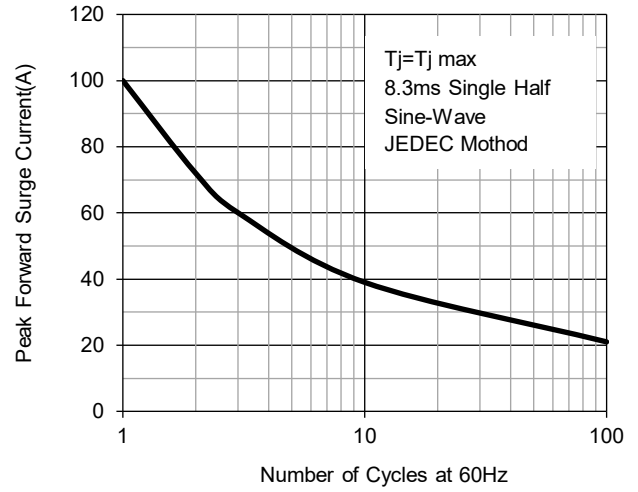


Fig.2 – Maximum Non-Repetitive Surge Current

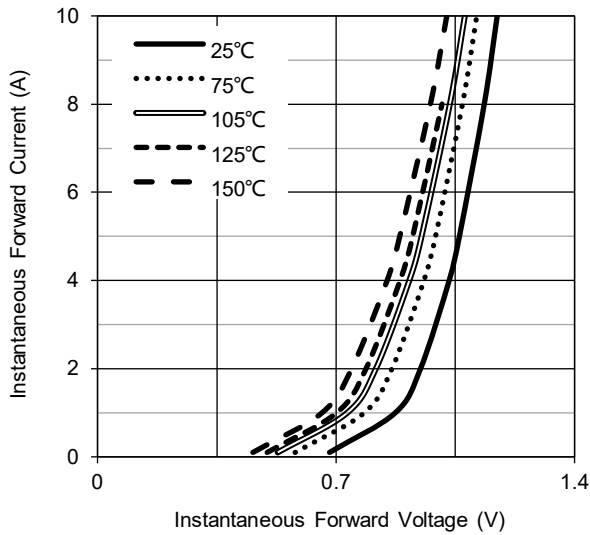


Fig.3 – Typical Forward Voltage Characteristics

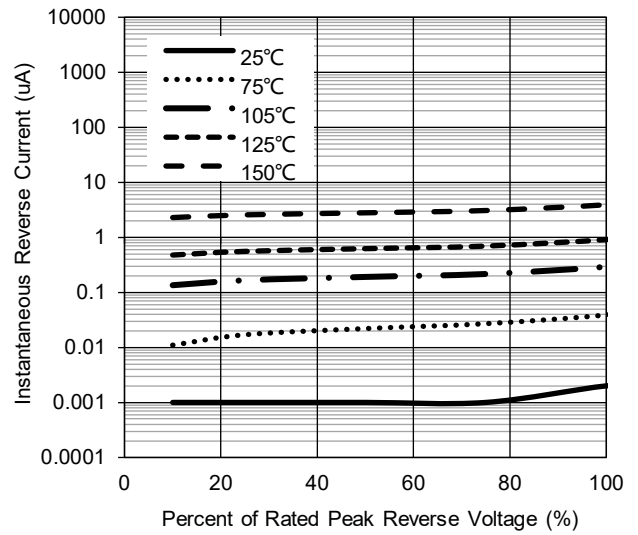


Fig.4 – Typical Reverse Current Characteristics

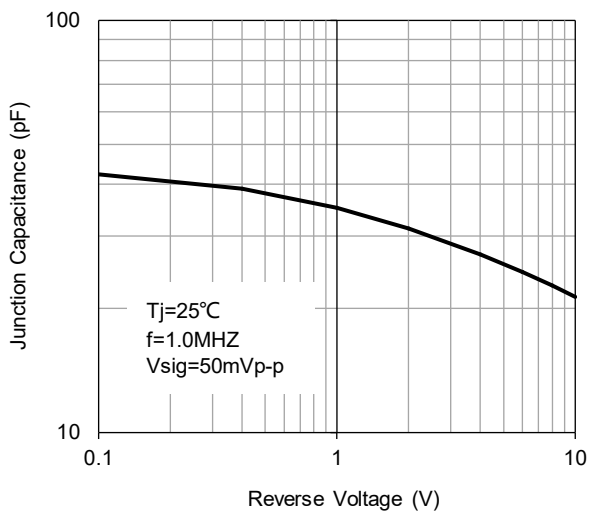
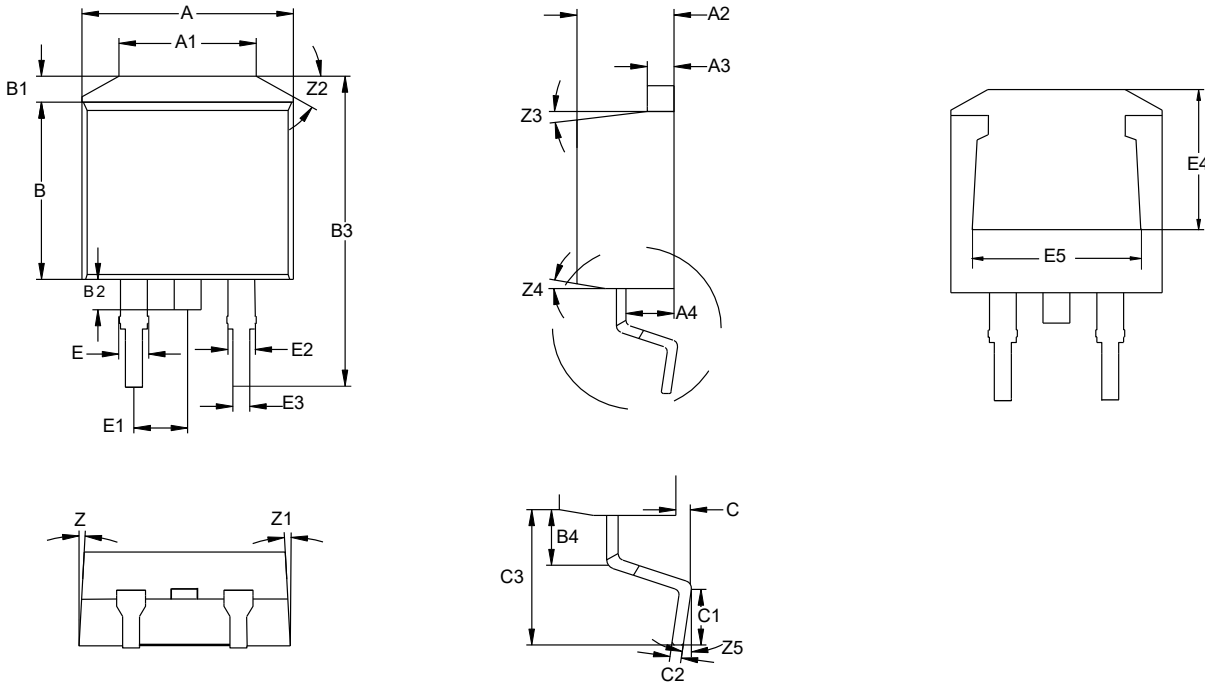


Fig.5 – Typical Junction Capacitance

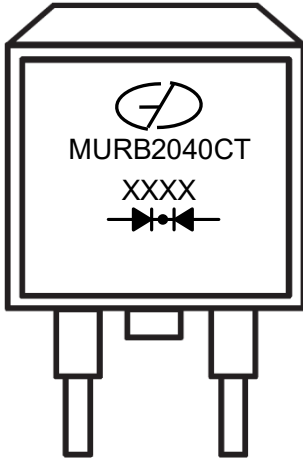
Package Outline Dimensions (Unit: millimeters)


TO-263AB



TO-263AB							
	Min.	Nom.	Max.		Min.	Nom.	Max.
A	9.8	10	10.2	C3	5	5.3	5.6
A1	6.5			E	1.17	1.37	1.57
A2	4.4	4.6	4.8	E1	2.44	2.54	2.64
A3	1.17	1.27	1.37	E2	1.17	1.27	1.37
A4	2.37	2.67	2.97	E3	0.7	0.8	0.9
B	8.5	8.7	8.9	E4	6.47	6.67	6.87
B1	1.07	1.27	1.47	E5	8.3	8.5	8.7
B2	1.2	1.5	1.8	Z		3°	
B3	15	15.3	15.6	Z1		3°	
B4	1.8	2	2.2	Z2		30°	
C	0		0.25	Z3		7°	
C1	2.34	2.54	2.74	Z4		7°	
C2	0.3	0.4	0.5	Z5	-4°		4°

Marking Outline



1. Logo Mark: 
2. Part Name: MURB2040CT
3. Date Code: XXXX
4. Polarity : 

Revision History

Document Version	Date of release	Description of changes
Rev.A	2013.12.18	Released Datasheet
Rev.B	2021.01.21	Modify document format
Rev.C	2022.04.21	Update ratings and characteristics curves

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