

Schottky Diodes



Features

- High frequency operation
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Solder dip 275 °C max. 7 s, per JESD 22-B106

Typical Applications

Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

Mechanical Data

- **Package:** ITO-220AB
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked

■Maximum Ratings (T_j=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MBRL40100FCT
Device marking code			MBRL40100FCT
Repetitive Peak Reverse Voltage	V _{RRM}	V	100
Average Rectified Output Current @60Hz sine wave, R-load, T _c (FIG.1)	I _o	A	40
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T _j =25°C	I _{FSM}	A	320
Surge(Non-repetitive)Forward Current @1ms. square wave, 1 time, T _j =25°C			640
Current Squared Time @1ms≤t≤8.3ms T _j =25°C	I ² t	A ² s	425
Typical junction capacitance @ 1MHz and Applied Reverse Voltage of 4.0 V.D.C.	C _j	pF	1120
Storage Temperature	T _{stg}	°C	-55 ~ +150
Junction Temperature	T _j	°C	-55 ~ +150
Dielectric strength @ terminals to case, AC 1 minute	V _{dis}	KV	2.0
Mounting torque @recommend torque: 5kg·cm	Tor	kg·cm	8



MBRL40100FCT

■Electrical Characteristics (T_j=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
Peak Forward Voltage	V _{FM}	V	I _{FM} =20.0A T _j =25°C	0.5	0.65	0.71
			I _{FM} =20.0A T _j =125°C	-	0.61	0.65
Maximum DC reverse current at rated DC blocking voltage per diode	I _{RRM1}	uA	V _{RM} =V _{RRM} T _j =25°C	-	-	100
	I _{RRM2}	mA	V _{RM} =V _{RRM} T _j =125°C	-	-	100

Note1:Pulse test:300uS pulse width,1% duty cycle

Note2:Pulse test:pulse width 40mS

■Thermal Characteristics (T_j=25°C Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MBRL40100FCT
Thermal Resistance	Between junction and case	R _{θJ-C}	°C/W	4.0

■Ordering Information (Example)

PREFERED P/N	UNIT WEIGHT(g)	MINIIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MBRL40100FCT	Approximate 1.6	50	1000	5000	Tube

■Characteristics (Typical)

FIG1:Io -Tc Curve

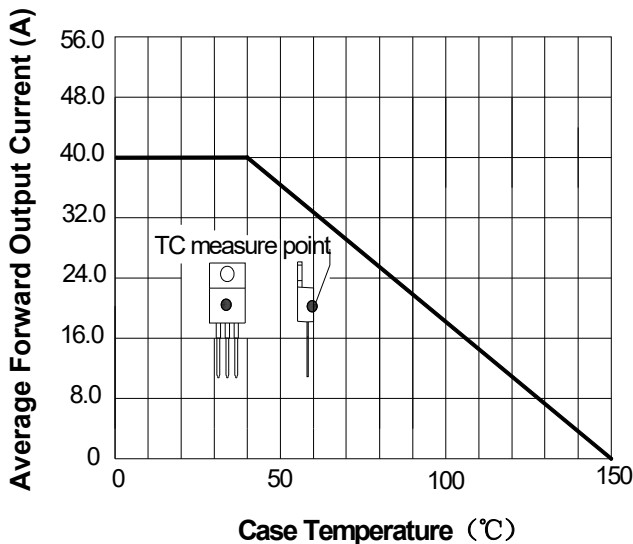


FIG2:Surge Forward Current Capability

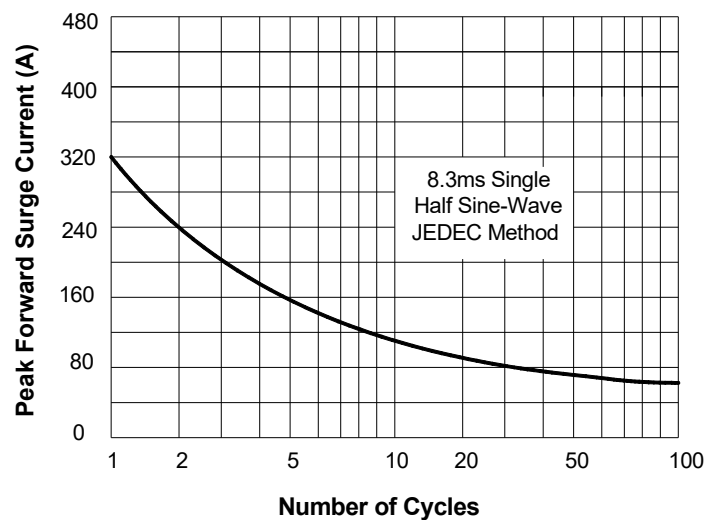


FIG3: Forward Voltage

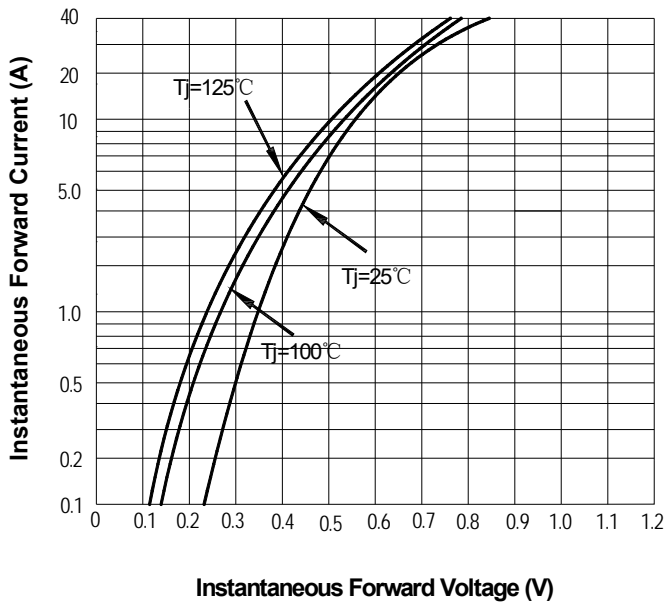
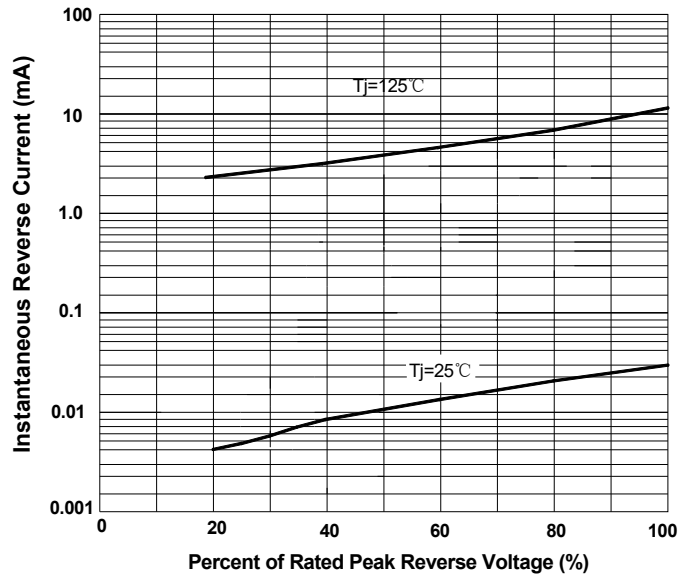
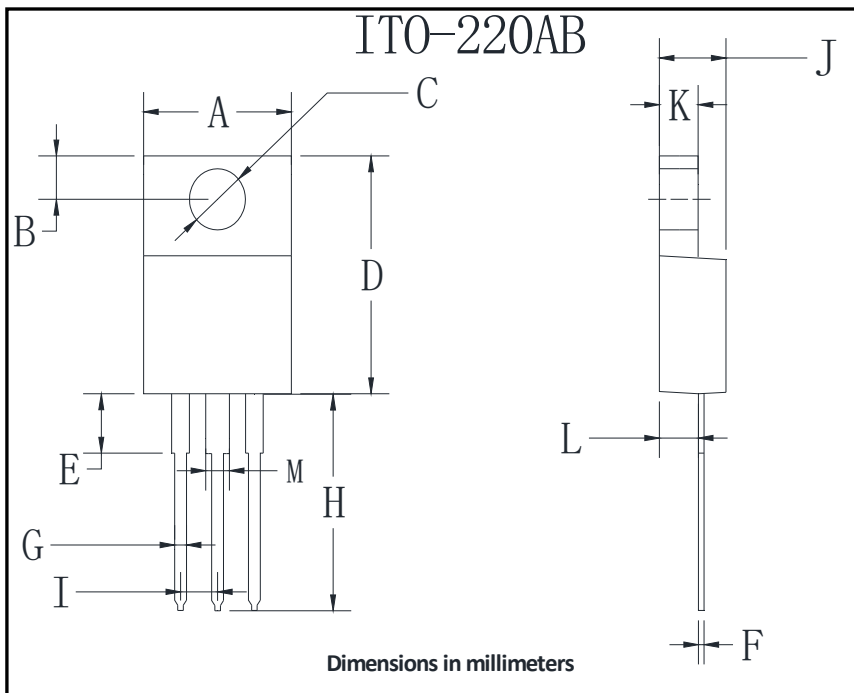


FIG.4: Typical Reverse Characteristics



■ Outline Dimensions



ITO-220AB		
Dim	Min	Max
A	9.8	10.2
B	2.25	2.75
C	2.95	3.45
D	14.75	15.25
E	3.05	3.95
F	0.45	0.75
G	0.45	0.75
H	13.4	14.2
I	2.35	2.75
J	4.3	4.8
K	2.58	2.82
L	2.58	2.82
M	1.47	1.77



MBRL40100FCT

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