MBR40CT Series

High Power Schottky Barrier Rectifier

Reverse Voltage: 40 to 200 Volts
Forward Current: 40 Ampere

RoHS Device
Halogen Free

Features

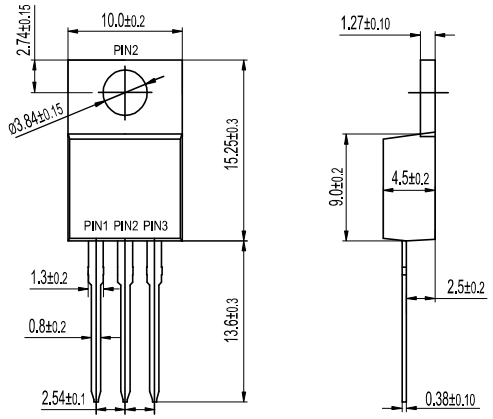
- High efficiencty operation
- Low power loss
- Low stored charge majority carrier conduction
- High forward surge capability
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std..(Halogen Free)

Mechanical data

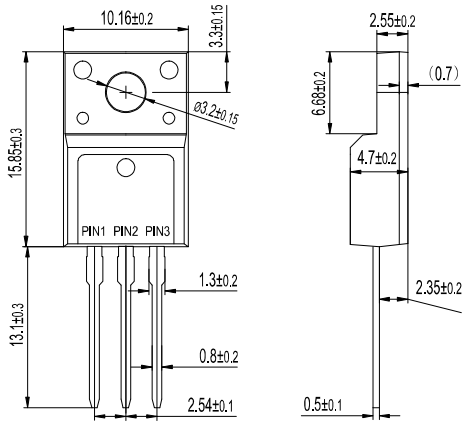
- Circuit figure: Common cathode
- Leads: Solderable per mil-std-202, Method 208
- Polarity: as marked
- Mounting torque: 5 in-lbs maximum
- Terminals: Puretin plated
- Weight: TO-220AB 1.85 grams
  ITO-220AB 1.70 grams
  TO-262AB 1.45 grams
  TO-263(D^2PAK) 1.35 grams

Package outline

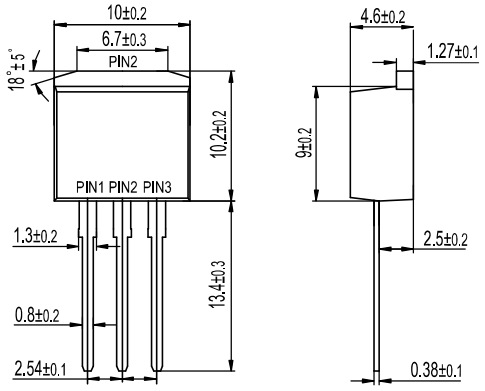
Dimensions in millimeters



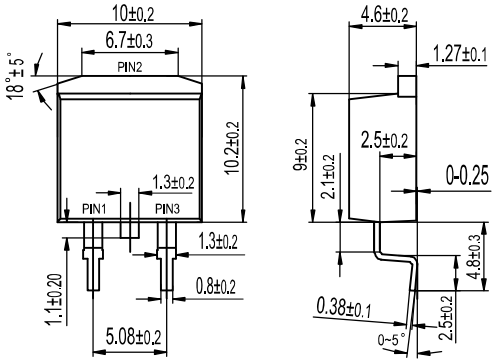
TO-220AB
MBR40XXCT



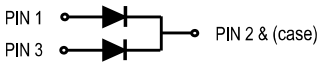
ITO-220AB
MBR40XXFCT



TO-262AB
MBR40XXWCT



TO-263(D^2PAK)
MBR40XXBCT



Maximum Ratings and Electrical Characteristics

Ratings at Ta=25°C unless otherwise noted.
Single phase, half wave, 60Hz, resistive or inductive loaded.
For capacitive load, derate current by 20% .

Parameter	Symbol	MBR 4040CT 4040FCT 4040WCT 4040BCT	MBR 4045CT 4045FCT 4045WCT 4045BCT	MBR 4060CT 4060FCT 4060WCT 4060BCT	MBR 40100CT 40100FCT 40100WCT 40100BCT	MBR 40150CT 40150FCT 40150WCT 40150BCT	MBR 40200CT 40200FCT 40200WCT 40200BCT	Units
Max. Repetitive peak reverse voltage	V_{RRM}	40	45	60	100	150	200	V
Max. RMS voltage	V_{RMS}	28	32	42	70	105	140	V
Max. DC blocking voltage	V_{DC}	40	45	60	100	150	200	V
Max. Instantaneous forward voltage @20A, T_A=25°C	V_F	0.65	0.65	0.75	0.85	0.95	0.95	V
Operating Temperature	T_J	-55 to +150				-55 to +175		°C
Maximum DC reverse current T_j = 25°C at rated DC reverse voltage T_j =125°C	I_R	0.1 20			0.01 8			mA

Parameter		Symbol	Value	Units
Maximum average forward current		$I_{F(AV)}$	40 20	A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)		I_{FSM}	380	A
Typical thermal resistance (Note 1)	TO-220AB ITO-220AB TO-262AB TO-263(D2PAK)	$R_{\theta JC}$	2.0 4.5 2.5 2.5	°C/W
Storage temperature		T_{STG}	-55 ~ +175	°C

Notes: 1. Thermal resistance from junction to case.

Rating and Characteristic Curves

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

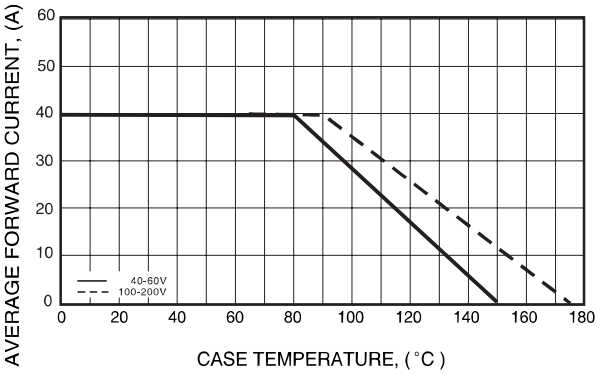


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

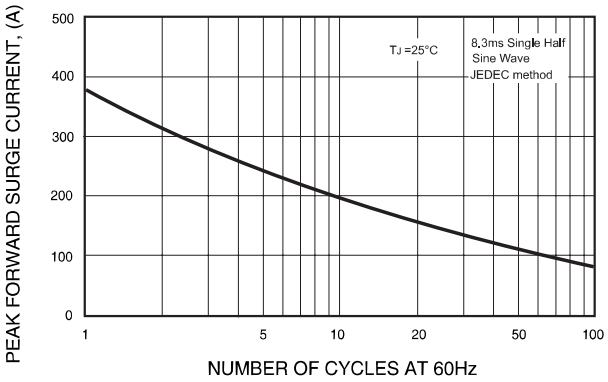


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

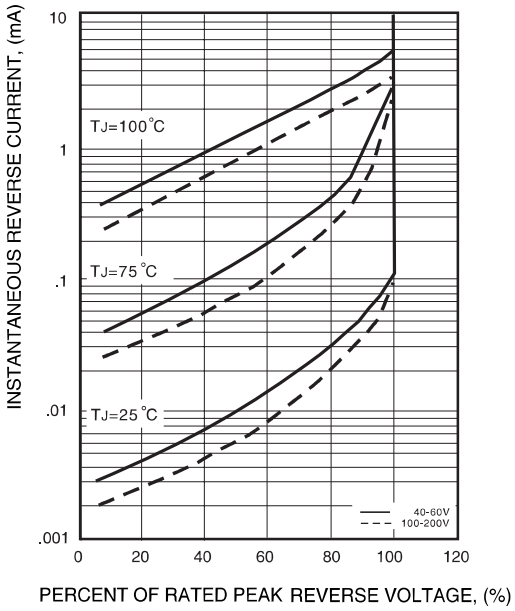
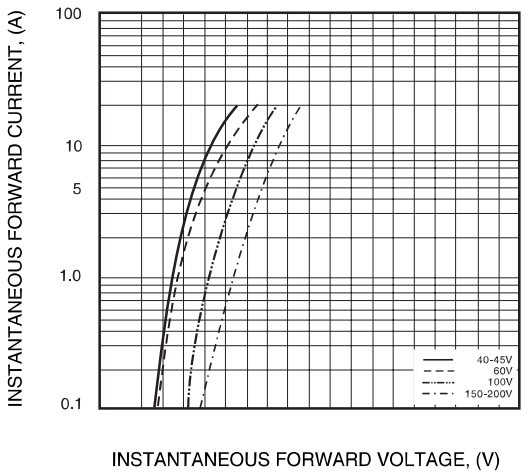
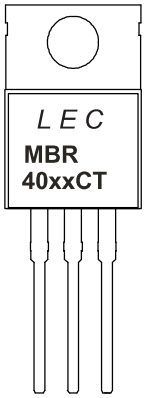


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



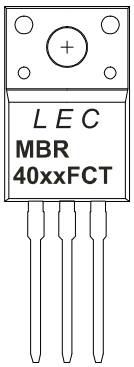
Standard Packaging

Case Type	TUBE PACK	
	TUBE (pcs)	BOX (pcs)
TO-220AB	50	1,000



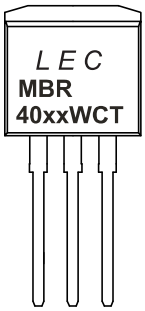
Standard Packaging

Case Type	TUBE PACK	
	TUBE (pcs)	BOX (pcs)
ITO-220AB	50	1,000



Standard Packaging

Case Type	TUBE PACK	
	TUBE (pcs)	BOX (pcs)
TO-262AB	50	1,000



Standard Packaging

Case Type	TUBE PACK		REEL PACK	
	TUBE (pcs)	BOX (pcs)	REEL (pcs)	Reel Size (inch)
TO-263	50	1,000	800	13