



PFC Device Corporation

PFB3M40

3A 40V Low IR MOS Schottky Rectifier

Major ratings and characteristics

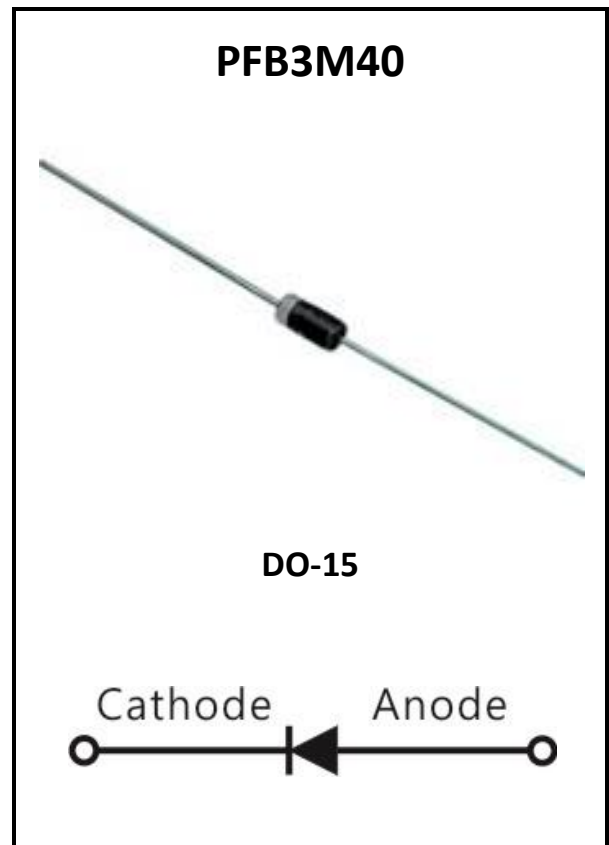
Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	3	A
V_{RRM}	40	V
V_F @ 3A , $T_J=125^\circ\text{C}$	0.36	V, typ.
T_J Operating Junction Temperature	-40 to +150	$^\circ\text{C}$

Features

- Low Forward Voltage Drop
- Low Reverse Current
- Reliable High Temperature Operation
- Softest, fast switching capability
- 150°C Operating Junction Temperature
- Lead Free Finish, RoHS Compliant

Typical Applications

Device optimized for low forward voltage drop to maximize efficiency in Power Supply applications



1. Characteristics

Maximum Ratings Characteristics

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

Parameter	Symbol	Values	Units
DC Blocking Voltage	V_{RM}	40	Volts
Working Peak Reverse Voltage	V_{RWM}		
Peak Repetitive Reverse Voltage	V_{RRM}		
Average Rectified Forward Current (Rated VR-20Khz Square Wave) - 50% duty cycle	I_o	3	Amps
Peak Forward Surge Current - 1/2 60hz	I_{FSM}	150	Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I_{RRM}	2	Amps
Typical Thermal Resistance	$R\theta_{JC}$	22	$^{\circ}\text{C} / \text{W}$
Maximum Rate of Voltage Change (at Rated VR)	dv/dt	10000	$\text{V}/\mu\text{S}$
Operating Junction Temperature	T_J	- 40 to +150	$^{\circ}\text{C}$
Storage Junction Temperature	T_{STG}	- 40 to +150	

Electrical Characteristics

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

Parameter	Test Conditions		Symbol	Typ.	Max.	Units
Instantaneous Forward Voltage	IF = 3 A	$T_J = 25^{\circ}\text{C}$	VF*	0.42	0.46	Volts
		$T_J = 125^{\circ}\text{C}$		0.36	0.42	
Instantaneous Reverse Current	At V_{RM}	$T_J = 25^{\circ}\text{C}$	IR*	-----	200	μA
		$T_J = 125^{\circ}\text{C}$		12	40	mA

* Pulse width < 300 μS , Duty cycle < 2%



2. Characteristics Curves

Ratings and Characteristics Curves

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

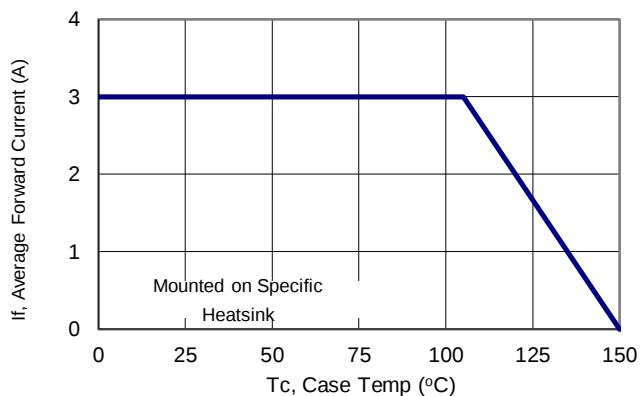


Figure 1: Current Derating, Case

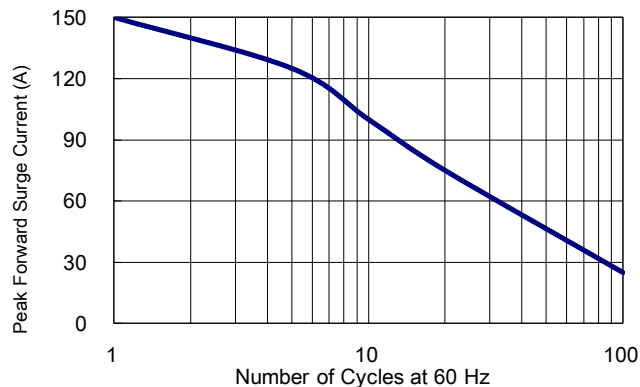


Figure 2: Maximum Repetitive Surge Current

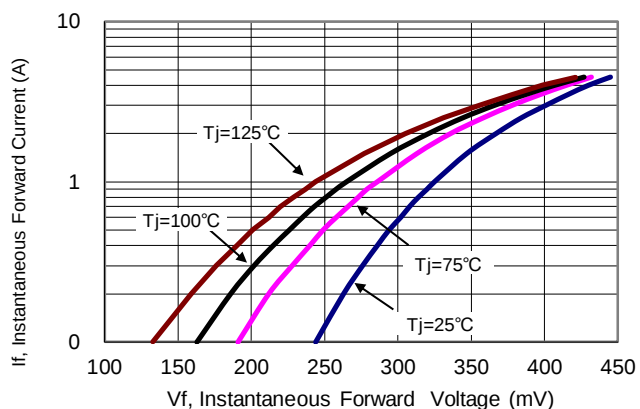


Figure 3: Typical Forward Voltage

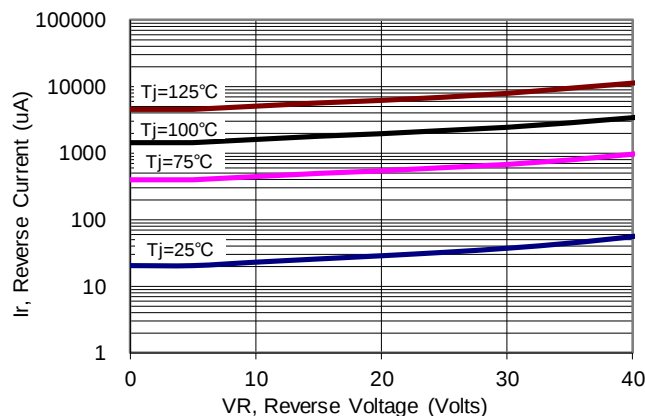


Figure 4: Typical Reverse Current

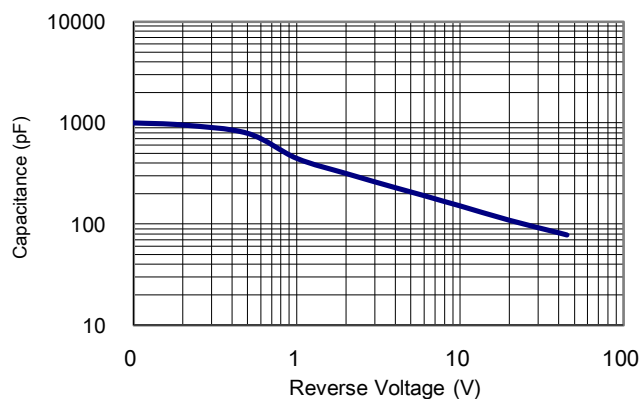
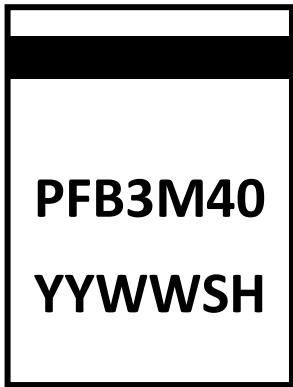


Figure 5: Typical Junction Capacitance



3. Marking information

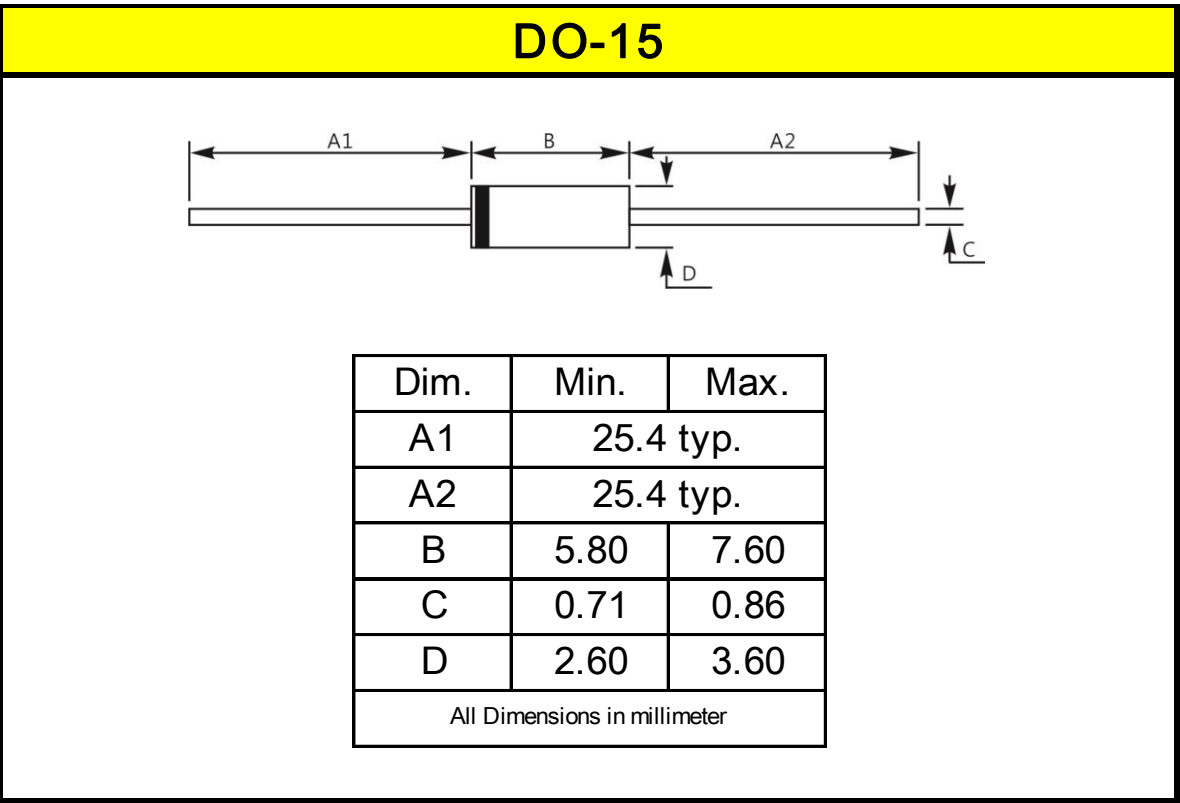
Top Marking Rule



PFB3M40 = Product Type Marking Code
YYWW = Date Code
YY = Last two digits of year
WW = Week code
S = Series Number
H = Halogen Free (N/A = common molding compound)

4. Package information

Package Outline Dimensions millimeters



5. Ordering information

Part Number	Package	Delivery mode
PFB3M40	DO-15	2000 pieces / ammo-pack

Note: For Halogen Free molding compound, add "H" suffix to part number above.

Mechanical

- Molder Plastic: UL Flammability Classification Rating 94V-0
- Device Weight : 0.014 ounces (0.397grams) – DO-15

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