

DATA SHEET

TYPE: 80A/600V

Package: Full Bridge Module

Prepared by	Audit by	Approved by

FRD Full Bridge Module

Product Applicationg:

- Switch mode Power Supply
- Inverters
- Free Wheeling Diode
- Motor Controllers
- Converters
- Inverters
- Snubber Diode
- PFC

Product Features:

- Ultrafast Recovery Times
- Soft Recovery Characteristics
- Popular Module Package
- Low Forward Voltage
- Low Leakage Current
- Avalanche Energy Rated

Product Benefits:

- Low Losses
- Low Noise Switching
- Cooler Operation
- Higher Reliability Systems
- Increased System Power Density

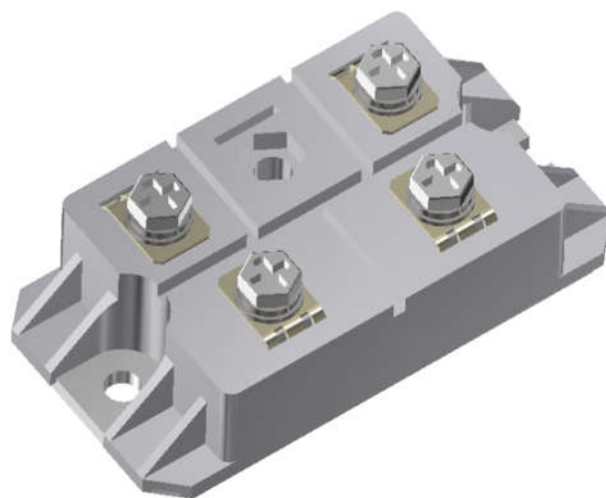
$V_{RRM} = 600V$

$I_{FAV} = 80A(2 \times 40)$

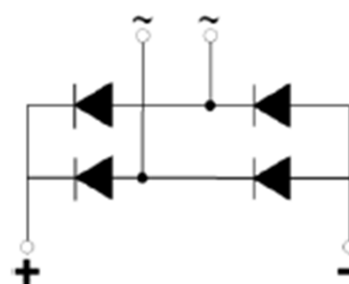
$V_F = 1.95V$

$TRR = 100ns$

Package:



Circuit diagram



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MAXIMUM RATINGS

All Ratings: Tc = 25° C unless otherwise specified.

Symbol	Characteristic / Test Conditions	TYP	UNIT
VR	Maximum D.C. Reverse Voltage	600	Volts
VRRM	Maximum Peak Repetitive Reverse Voltage		
VRWM	Maximum Working Peak Reverse Voltage	480	
IF(AV)	Maximum Average Forward Current (Tc = 100°C, Duty Cycle = 0.5)	100	Amps
IFSM	Non-Repetitive Forward Surge Current (TJ = 25°C, 8.3ms)	1800	
TJ , TSTG	Operating and Storage Temperature Range	-55 to 150	° C
TL	Lead Temperature for 10 Sec	260	

STATIC ELECTRICAL CHARACTERISTICS

Symbol	Characteristic / Test Conditions		MFDB80A60 B		UNIT
			TYP	MAX	
VF	Forward Voltage	IF =40A, Tj = 25°C	1.75	1.95	Volts
		IF = 40A, Tj = 150°C	1.35	1.55	
IRM	Maximum Reverse Leakage Current	VR = 600V, Tj =25°C		10	μ A
		VR = 600V, Tj =150°C		500	
Trr	Reverse Recovery Time	IF=0.5A IRM=1A IRR=0.25A TC=25°C	85	100	ns
		IF=0.5A IRM=1A IRR=0.25A TC=125°C	180	210	
CJ	Junction Capacitance, VR =200V		35		pF

THERMAL AND MECHANICAL CHARACTERISTICS

Symbol	Characteristic / Test Conditions	MFDB80A60 B	UNIT
RθJC	Junction-to-Case Thermal Resistance	0.4	°C/W
WT	Package Weight	150	g
Torque	Maximum Mounting Torque	5	N.m

TYPICAL PERFORMANCE CURVES

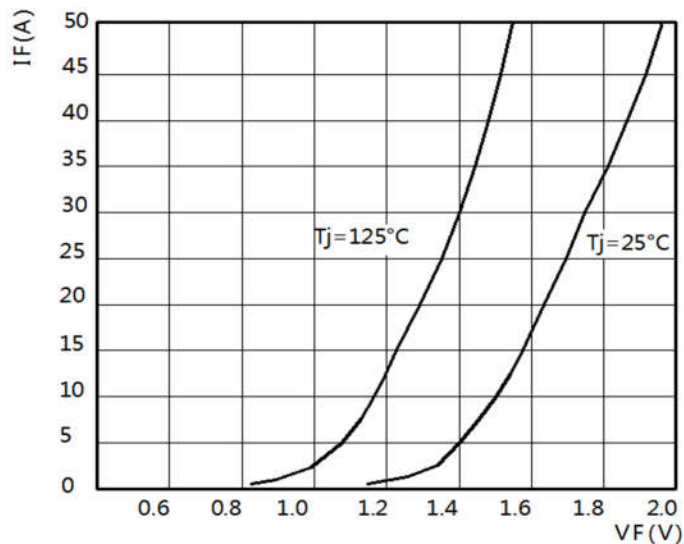


FIGURE 1. FORWARD CURRENT vs FORWARD VOLTAGE

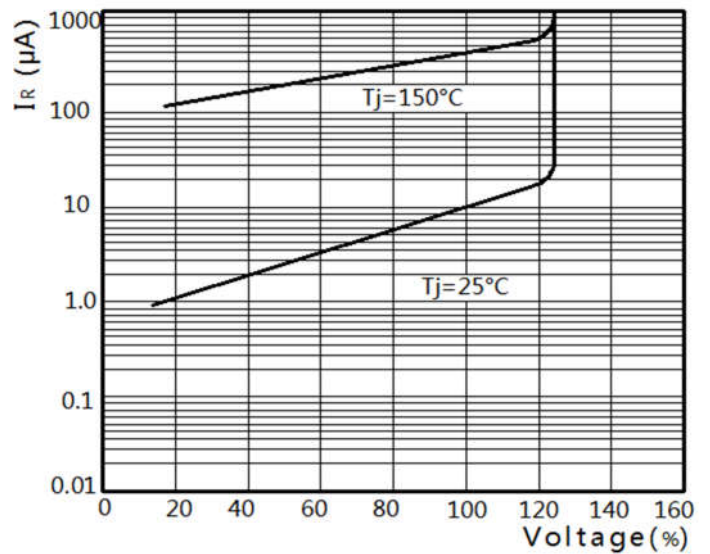


FIGURE 2. REVERSE CURRENT vs REVERSE VOLTAGE

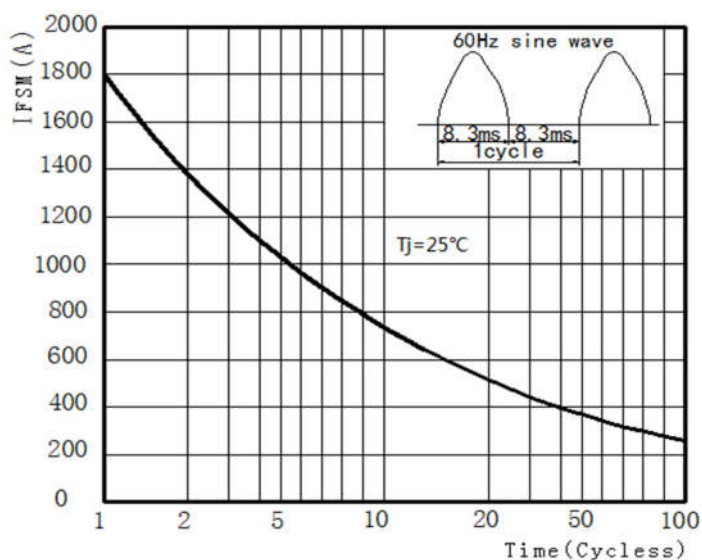


FIGURE 3. Peak Surge Forward Capability

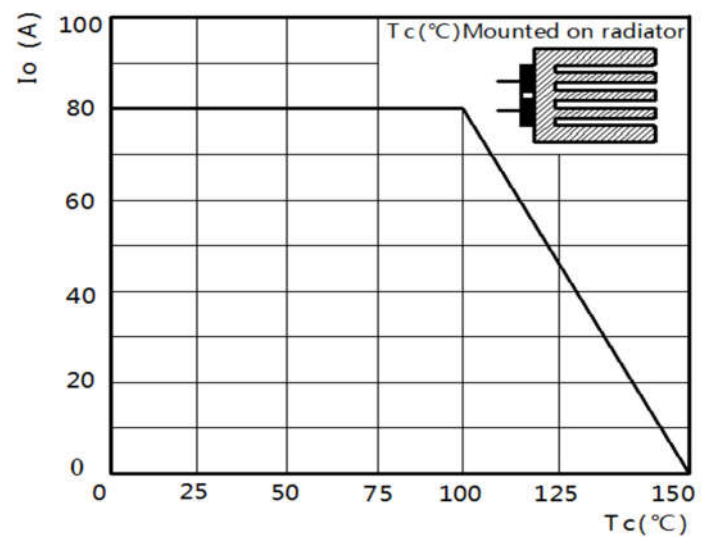


FIGURE 4. CURRENT DERATING CURVE

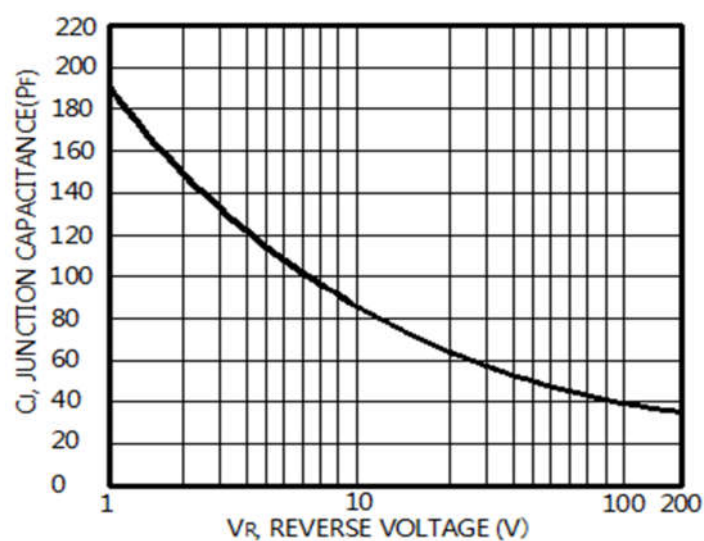
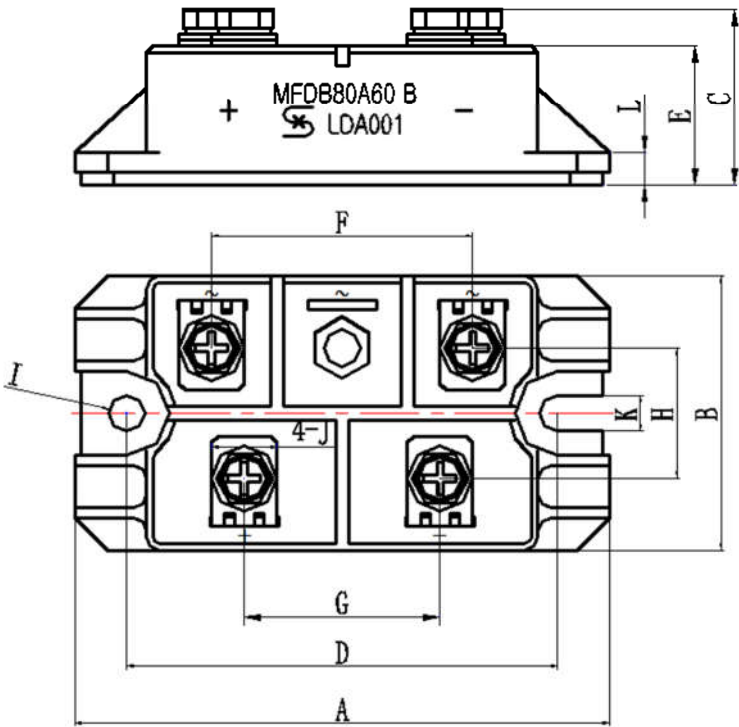


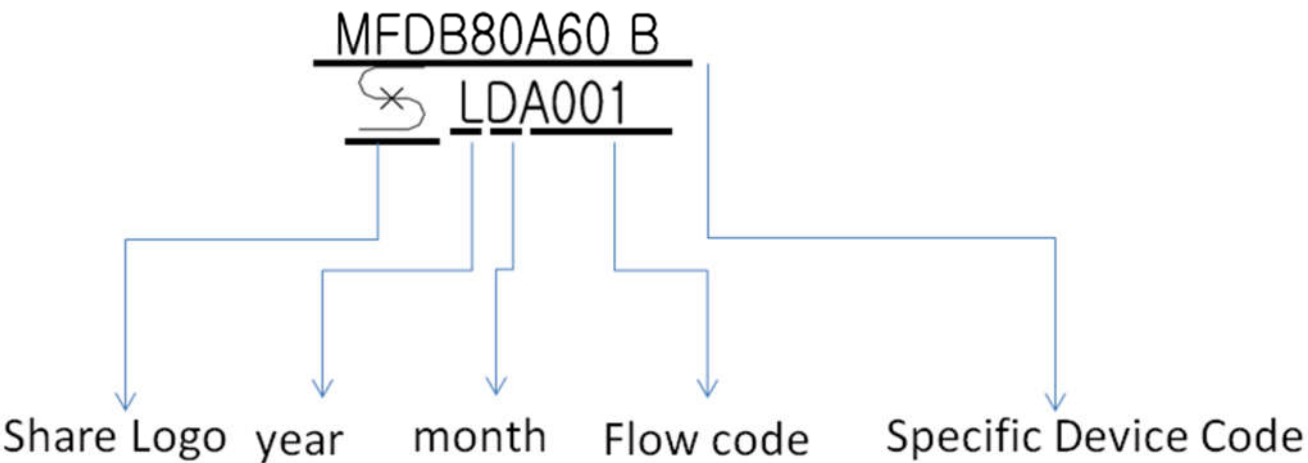
FIGURE 5. JUNCTION CAPACITANCE vs REVERSE VOLTAGE

Dimensioned drawing



Dim.	Millimeter		Inches	
	min	max	min	max
A	81.5	82.5	3.209	3.248
B	41.5	42.5	1.634	1.673
C	27.5	28.5	1.047	1.087
D	65.5	66.5	2.579	2.618
E	21.3	22.3	0.839	0.878
F	39.7	40.3	1.563	1.587
G	29.7	30.3	1.169	1.193
H	19.7	20.3	0.776	0.799
I	5.2	5.8	0.205	0.228
J	9.8	10.2	0.386	0.402
K	5.3	5.7	0.209	0.224
L	4.5	5.5	0.177	0.217

Marking



变更履历

序号	变更内容	更改原因	版本	变更人	更改时间
1	新增	新增	0	赵朝思	2020. 10. 20