

DATA SHEET

TYPE: 15A/600V

Package: T0-220AC

Prepared by	Audit by	Approved by

Product specifications

Product Application:

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

Product Features:

- Ultrafast Recovery Times
- Soft Recovery Characteristics
- Popular TO-220 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

$V_{RRM} = 600V$

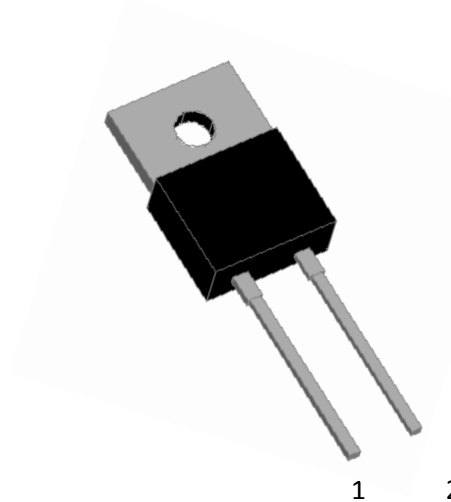
$I_F = 15A$

$V_F = 2.0V$

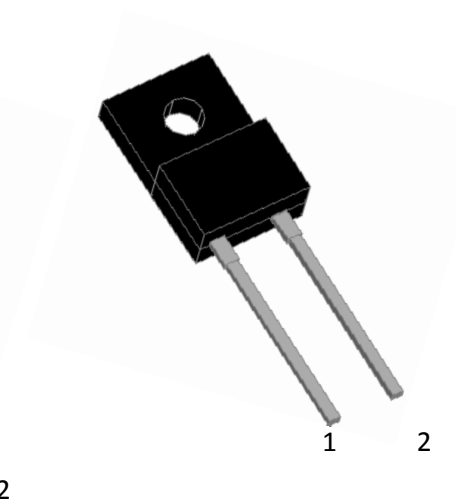
$TRR = 25ns$

Package:

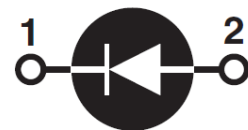
S1FD15C60 B



S1FD15C60 BF



Circuit diagram



1 - Cathode

2 - Anode

Back of Case - Cathode (S2FD15C60)

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		
IF(AV)	Maximum Average Forward Current (Tc = 100°C, Duty Cycle = 0.5)	15	Amps
IFSM	Non-Repetitive Forward Surge Current (TJ = 25°C, 8.3ms)	200	
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		TYP	MAX	UNIT
VF	Forward Voltage	IF = 15A, TJ = 25°C	2.0	2.5	Volts
		IF = 15A, TJ = 150°C	1.5	2.0	
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	25	30	ns
CJ	Junction Capacitance, VR =200V		25		pF

THERMAL AND MECHANICAL CHARACTERISTICS

Symbol	Characteristic / Test Conditions	S1FD15C60 B	S1FD15C60 BF	UNIT
Rθ JC	Junction-to-Case Thermal Resistance	2.0	3.5	°C/W
WT	Package Weight	1.89	1.6	g
Torque	Maximum Mounting Torque	0.8	0.5	N.m

TYPICAL PERFORMANCE CURVES

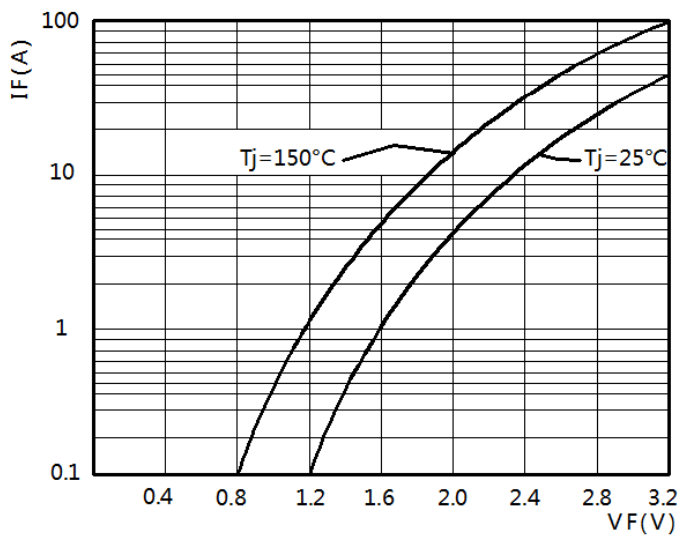


FIGURE 1. FORWARD CURRENT vs FORWARD VOLTAGE

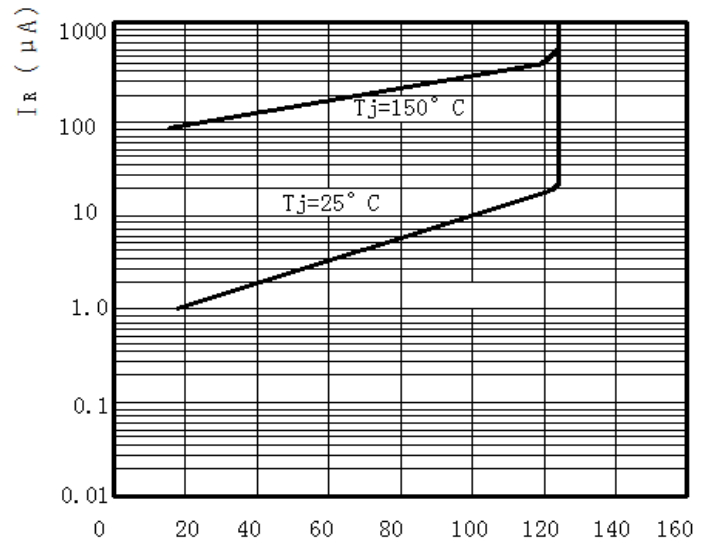


FIGURE 2. REVERSE CURRENT vs REVERSE VOLTAGE

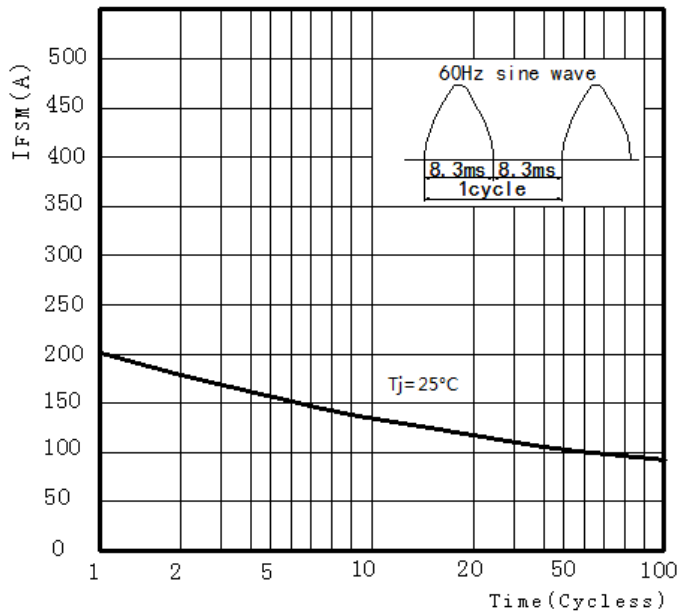


FIGURE 3. Peak Surge Forward Capability

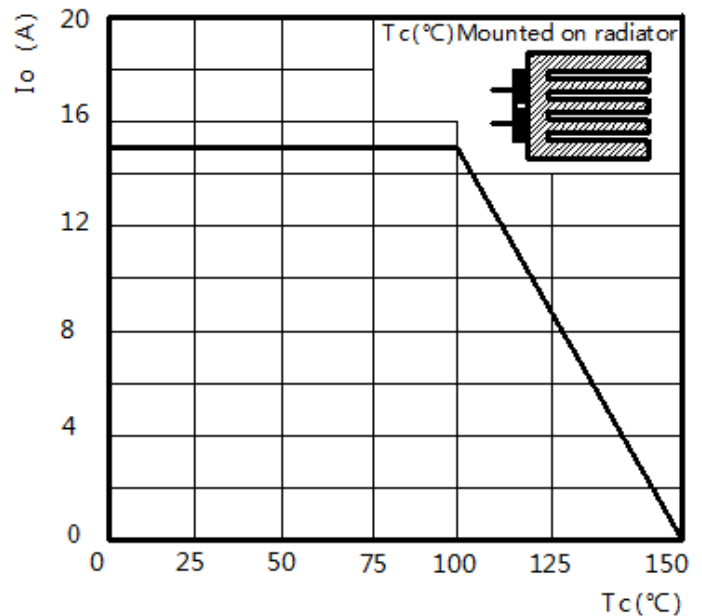


FIGURE 4. CURRENT DERATING CURVE

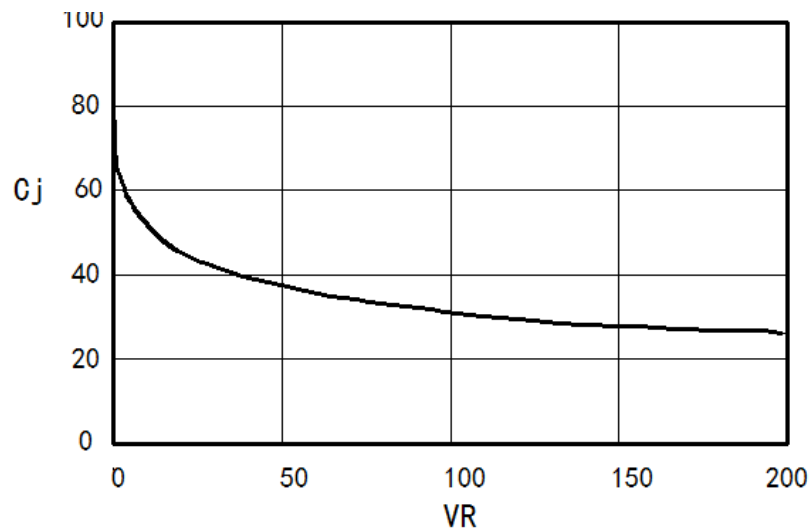
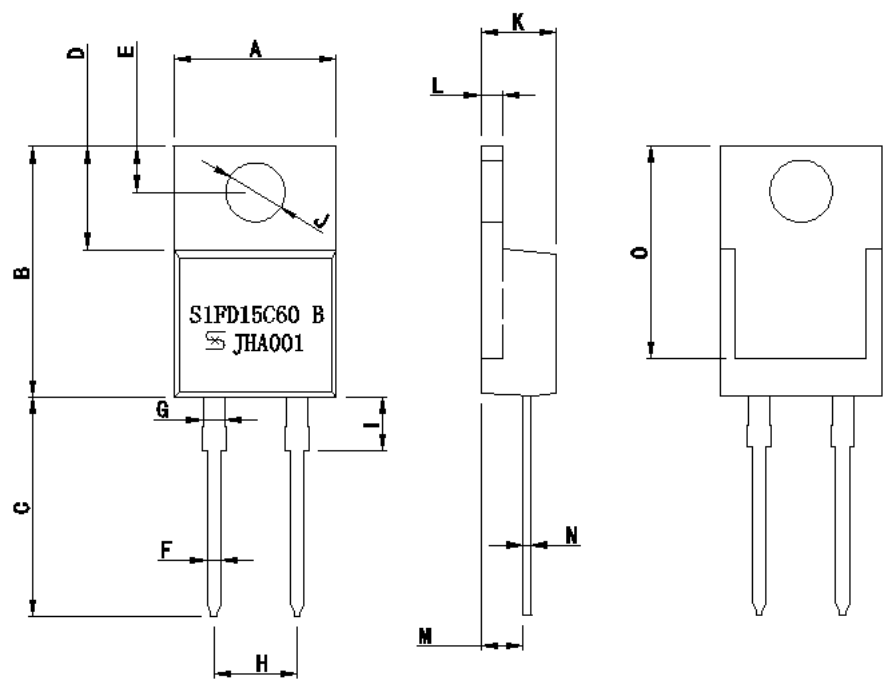


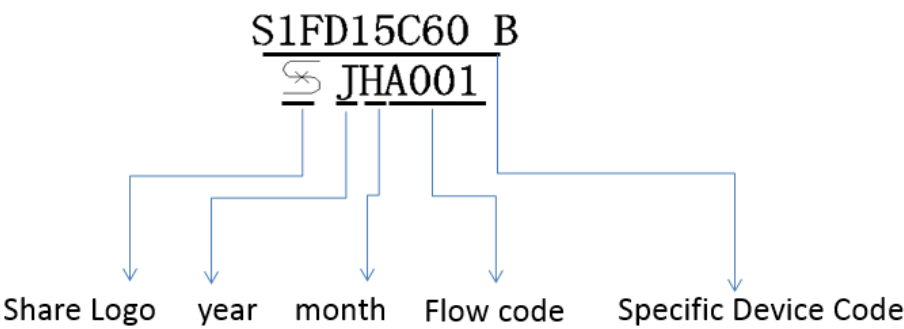
FIGURE 5. JUNCTION CAPACITANCE vs REVERSE VOLTAGE

Dimensioned drawing (TO-220AC)

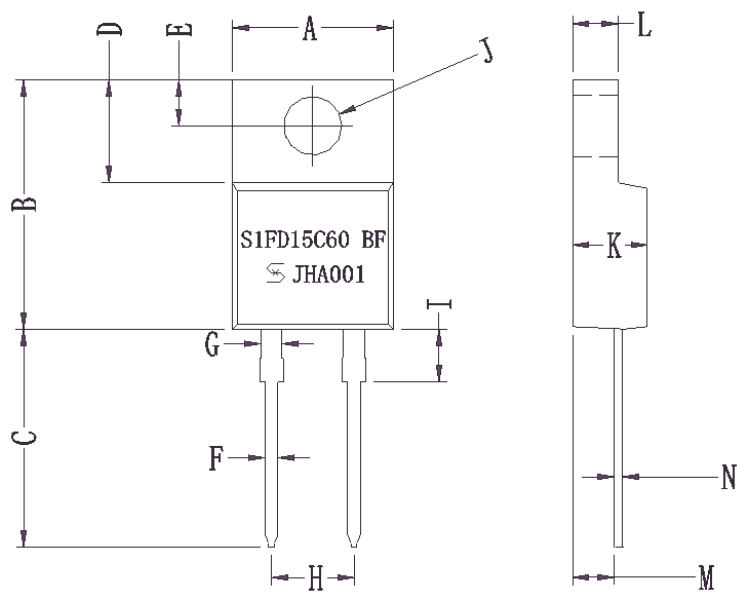


Dim.	Millimeter		Inches	
	min	max	min	max
A	9.70	10.3	0.38	0.41
B	15.1	15.7	0.59	0.62
C	13	14	0.51	0.55
D	6	6.6	0.24	0.26
E	2.5	3.1	0.10	0.12
F	0.6	1	0.02	0.04
G	1.05	1.45	0.04	0.06
H	4.9	5.3	0.19	0.21
I	3.1	4.1	0.12	0.16
J	3.4	3.8	0.13	0.15
K	4.3	4.9	0.17	0.19
L	1	1.6	0.04	0.06
M	2.34	2.74	0.09	0.11
N	0.4	0.8	0.02	0.03
O	13.2	13.8	0.52	0.54

Marking

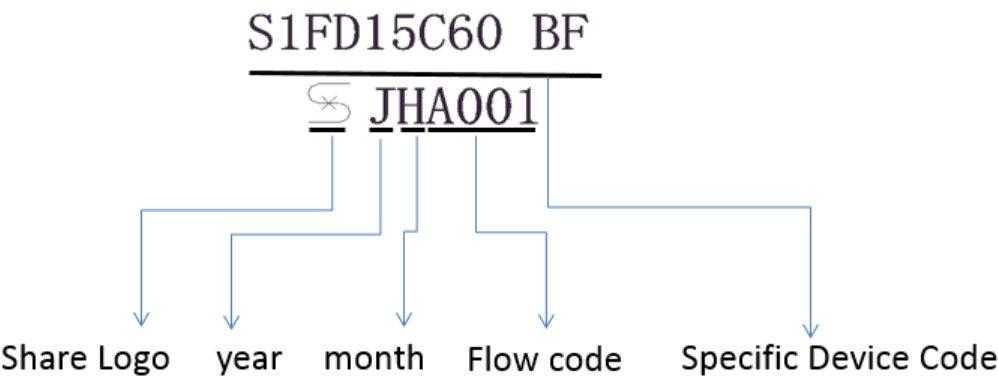


Dimensioned drawing (T0-220AC F)



Dim.	Millimeter		Inches	
	min	max	min	max
A	9.5	10.5	0.39	0.43
B	15.5	16.5	0.64	0.68
C	13	14	0.51	0.55
D	6.5	7.1	0.27	0.29
E	2.5	3.5	0.1	0.14
F	0.5	0.9	0.02	0.04
G	1.0	1.4	0.04	0.06
H	4.9	5.3	0.20	0.22
I	2	4	0.08	0.16
J	3.0	3.4	0.12	0.14
K	4.5	4.9	0.18	0.20
L	2.6	3.0	0.11	0.12
M	2.6	3.0	0.11	0.12
N	0.4	0.8	0.02	0.03

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 trr 小的产品	新增	0	黄晓艳	2020. 3. 18