

Product specifications

Product Application:

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

$V_{RRM} = 600V$

$I_{FAV} = 20A(10 \times 2)$

$V_F = 1.5V$

$T_{RR} = 30ns$

Product Features:

- Ultrafast Recovery Times
- Soft Recovery Characteristics
- Popular TO-220AB Package
- Low Forward Voltage
- Low Leakage Current
- Avalanche Energy Rated

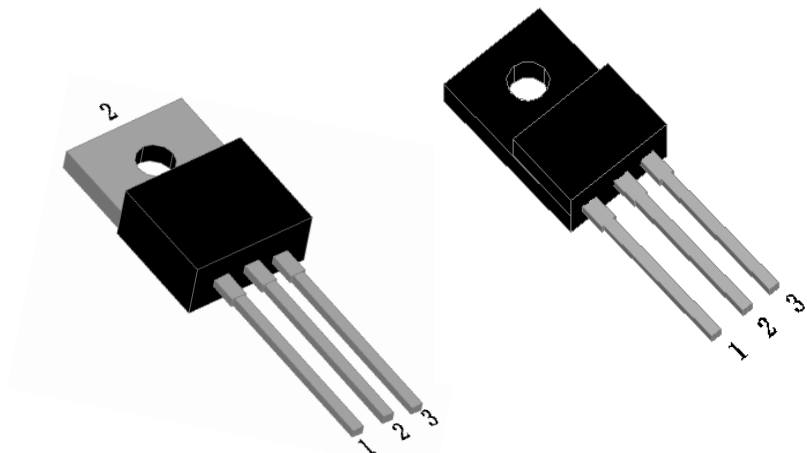
Product Benefits:

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

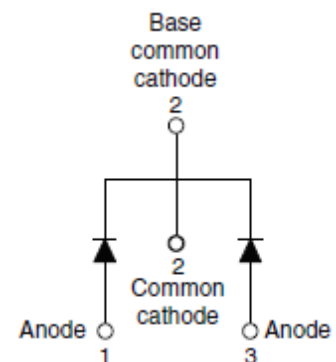
Package:

S2FD20C60

S2FD20C60 F



Circuit diagram



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		
IF(AV)	Maximum Average Forward Current (Tc = 100°C, Duty Cycle = 0.5)	20(10*2)	Amps
IFSM	Non-Repetitive Forward Surge Current (TJ = 25°C, 8.3ms)	150	
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 = 10A, Tj = 25℃	1.5	1.7	Volts
		IF = 10A, Tj = 150℃	1.3	1.5	
IRM	Maximum Reverse Leakage Current	VR = 600V, Tj =25℃		5	μ A
		VR = 600V, Tj =150℃		100	
Trr	Reverse Recovery Time	IF=0.5A IRR=1A TC=25℃	30	50	ns
CJ	Junction Capacitance, VR =200V		25		pF

THERMAL AND MECHANICAL CHARACTERISTICS

Symbol	Characteristic / Test Conditions	S2FD20C60	S2FD20C60 F	UNIT
Re JC	Junction-to-Case Thermal Resistance	2.0	3.0	°C/W
WT	Package Weight	1.89	1.9	g
Torque	Maximum Mounting Torque	0.8	0.5	N.m

TYPICAL PERFORMANCE CURVES

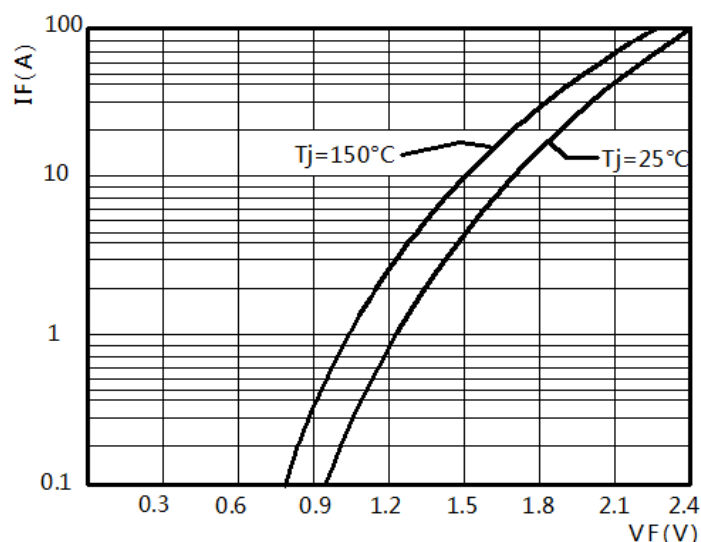


FIGURE 1. FORWARD CURRENT vs FORWARD VOLTAGE

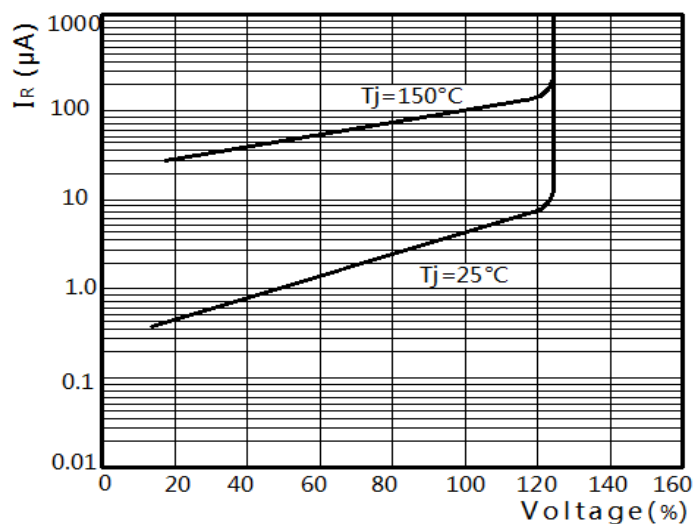


FIGURE 2. REVERSE CURRENT vs REVERSE VOLTAGE

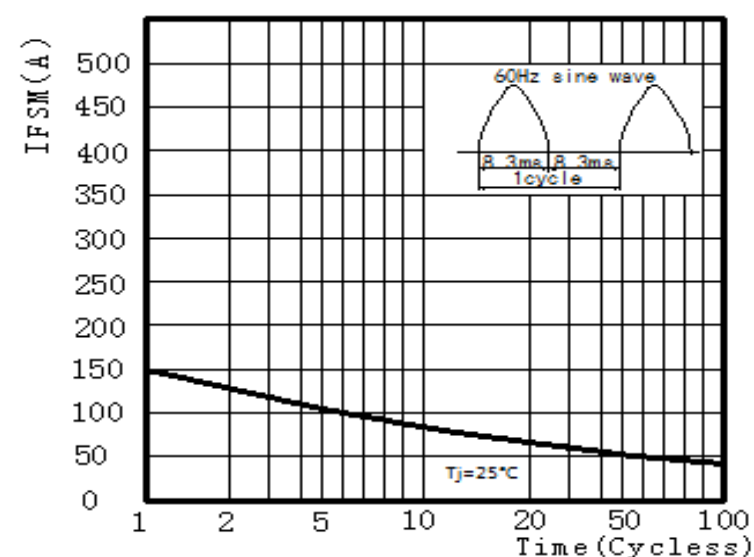


FIGURE 3. Peak Surge Forward Capability

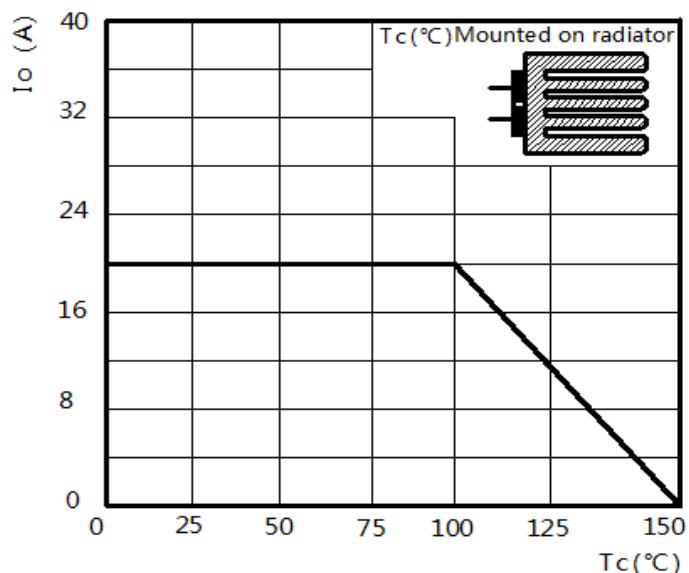


FIGURE 4. CURRENT DERATING CURVE

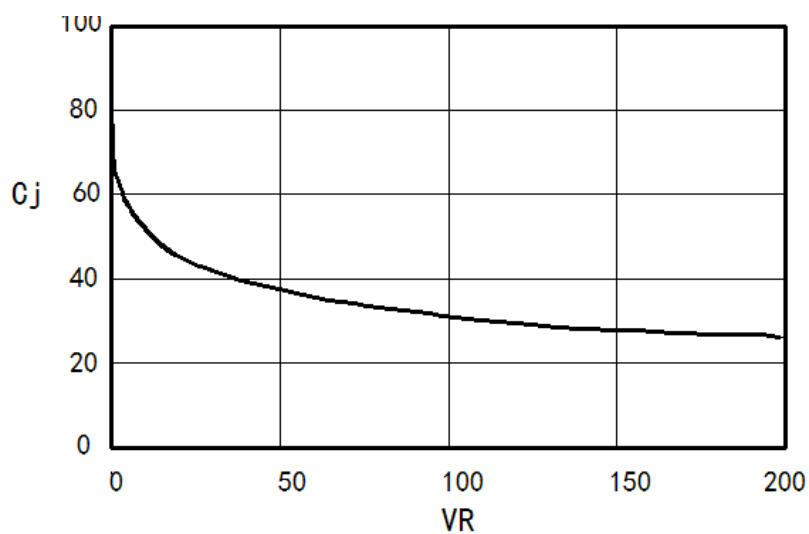
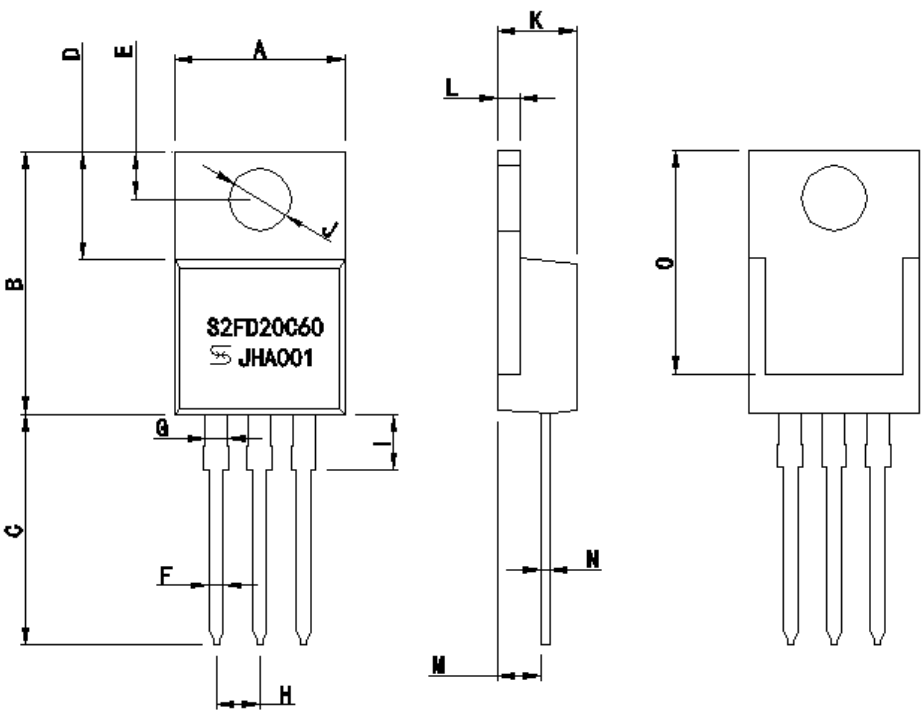


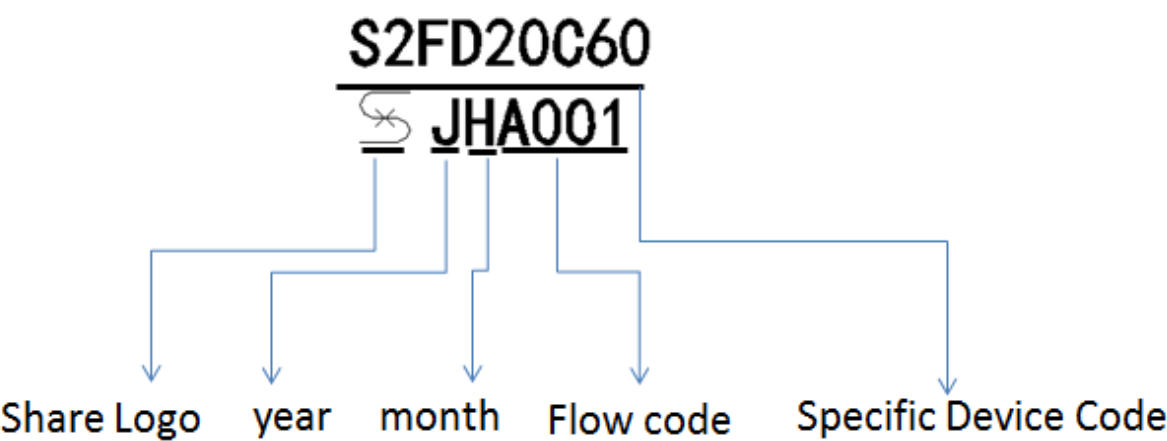
FIGURE 5. JUNCTION CAPACITANCE vs REVERSE VOLTAGE

Dimensioned drawing (TO-220AB)

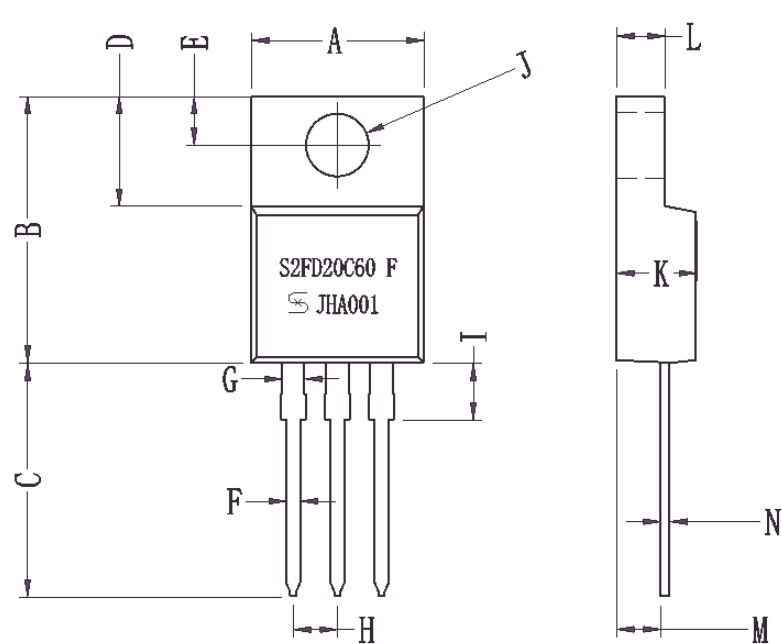


Dim.	Millimeter		Inches	
	min	max	min	max
A	9.7	10.1	0.381	0.397
B	15.1	15.3	0.594	0.602
C	13.2	13.6	0.519	0.535
D	6.10	6.50	0.240	0.255
E	2.60	3.00	0.102	0.118
F	0.80	0.90	0.031	0.035
G	1.25	1.35	0.049	0.053
H	2.44	2.64	0.196	0.203
I	3.05	3.45	0.120	0.135
J	3.50	3.70	0.137	0.145
K	4.40	4.80	0.173	0.188
L	1.25	1.35	0.049	0.053
M	2.50	2.60	0.098	0.102
N	0.45	0.55	0.017	0.0215
O	12.8	13.2	0.503	0.519

Marking



Dimensioned drawing (TO-220AB 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	2.44	2.64	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

