

DATA SHEET

TYPE: 75A/1200V

Package: T0-247

Prepared by	Audit by	Approved by

Product specifications

VRRM =1200V

IFAV =75A

VF =3.0V

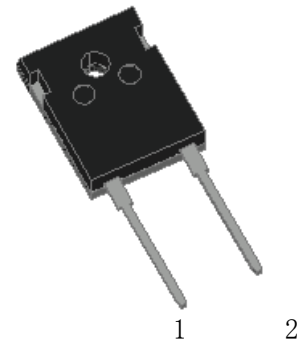
Trr =80ns

Product Applicationg:

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

Part number:

S1FD75A120 H



Product Features:

- Ultrafast Recovery Times
- Soft Recovery Characteristics
- Popular TO-247 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

Circuit diagram



1 - Cathode

2 - Anode

Back of Case -Cathode

MAXIMUM RATINGS

 All Ratings: $T_c = 25^{\circ}C$ unless otherwise specified.

Symbol	Characteristic / Test Conditions	S1FD75A120	UNIT
VR	Maximum D.C. Reverse Voltage	1200	Volts
VRRM	Maximum Peak Repetitive Reverse Voltage		
VRWM	Maximum Working Peak Reverse Voltage		
IF(AV)	Maximum Average Forward Current	75	Amps
IFSM	Non-Repetitive Forward Surge Current ($T_j = 25^{\circ}C$, 8.3ms)	600	
TJ , TSTG	Operating and Storage Temperature Range	-55 to 175	$^{\circ}C$
TL	Lead Temperature for 10 Sec	260	

STATIC ELECTRICAL CHARACTERISTICS

Symbol	Characteristic / Test Conditions	TYP	MAX	UNIT	
VF	Forward Voltage	IF = 75A, Tj = 25 $^{\circ}C$	3.0	4.0	Volts
		IF = 75A, Tj = 150 $^{\circ}C$	2.0	3.0	
IRM	Maximum Reverse Leakage Current	VR = 1200V, Tj =25 $^{\circ}C$		10	μA
		VR = 1200V, Tj =150 $^{\circ}C$		500	
Trr	Reverse Recovery Time	IF=0.5A IRR=0.25A	80	150	ns
CJ	Junction Capacitance, VR =200V	35		pF	

THERMAL AND MECHANICAL CHARACTERISTICS

Symbol	Characteristic / Test Conditions	TYP	MAX	UNIT
R θ_{JC}	Junction-to-Case Thermal Resistance		0.5	$^{\circ}C/W$
Wt	Package Weight	6.7		g
Torque	Maximum Mounting Torque		1.1	N.m

TYPICAL PERFORMANCE CURVES

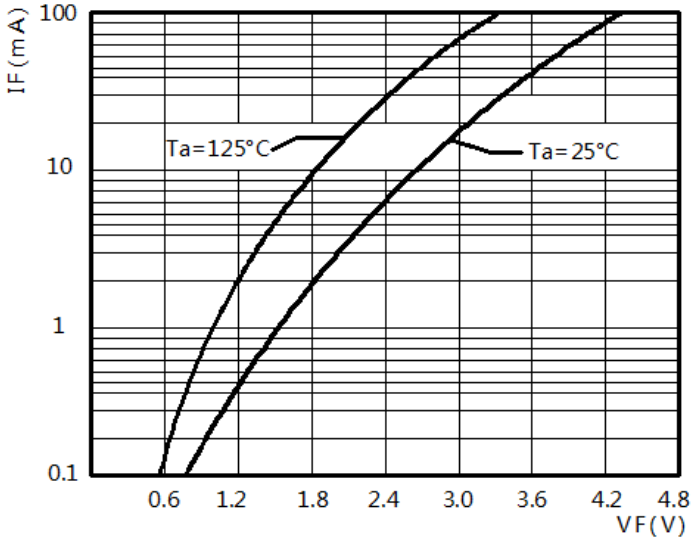


FIGURE 1. FORWARD CURRENT vs FORWARD VOLTAGE

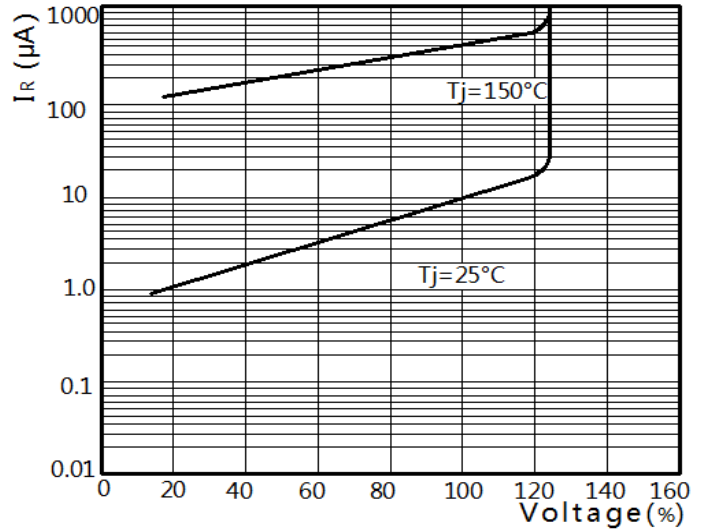


FIGURE 2. REVERSE CURRENT vs REVERSE VOLTAGE

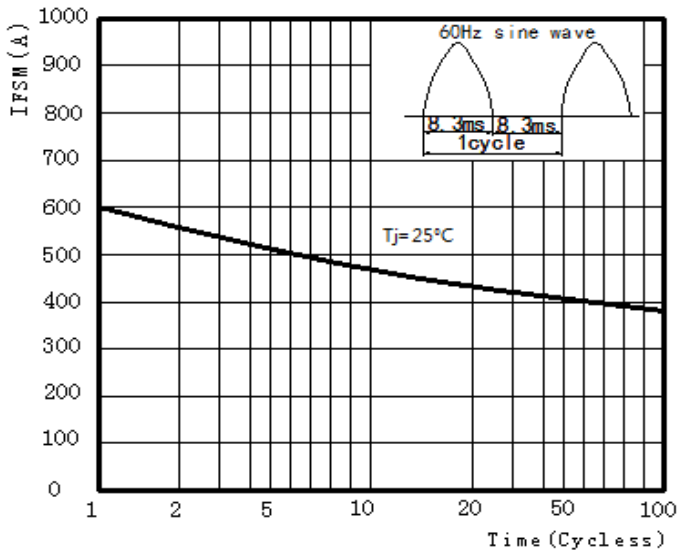


FIGURE 3. Peak Surge Forward Capability

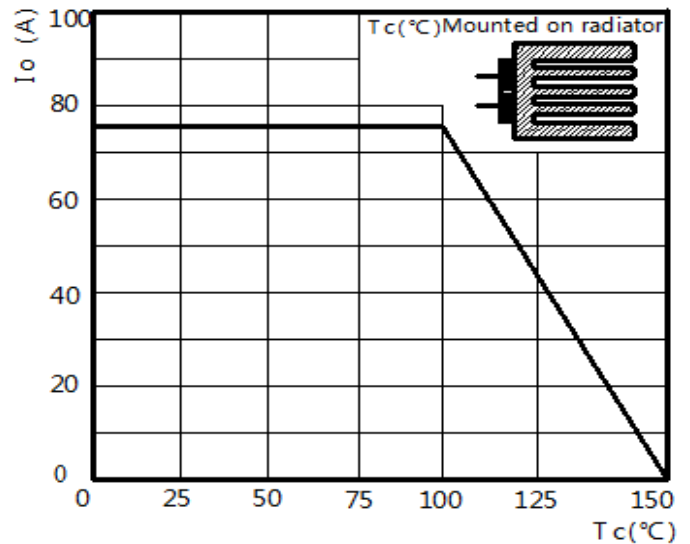


FIGURE 4. CURRENT DERATING CURVE

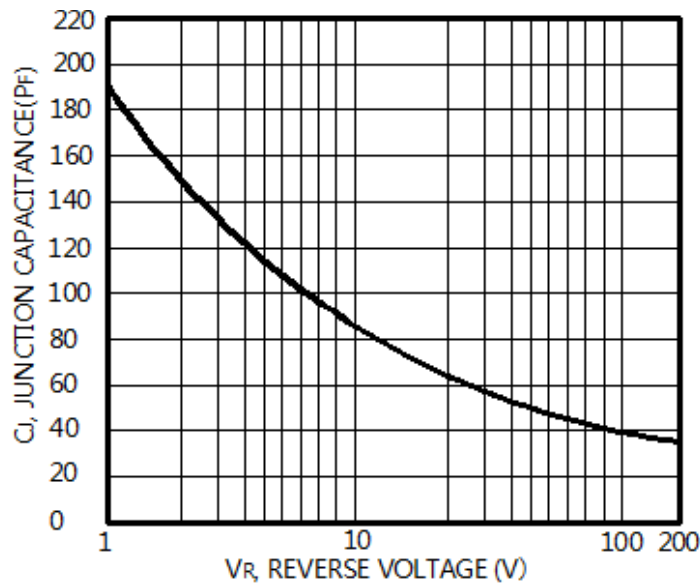
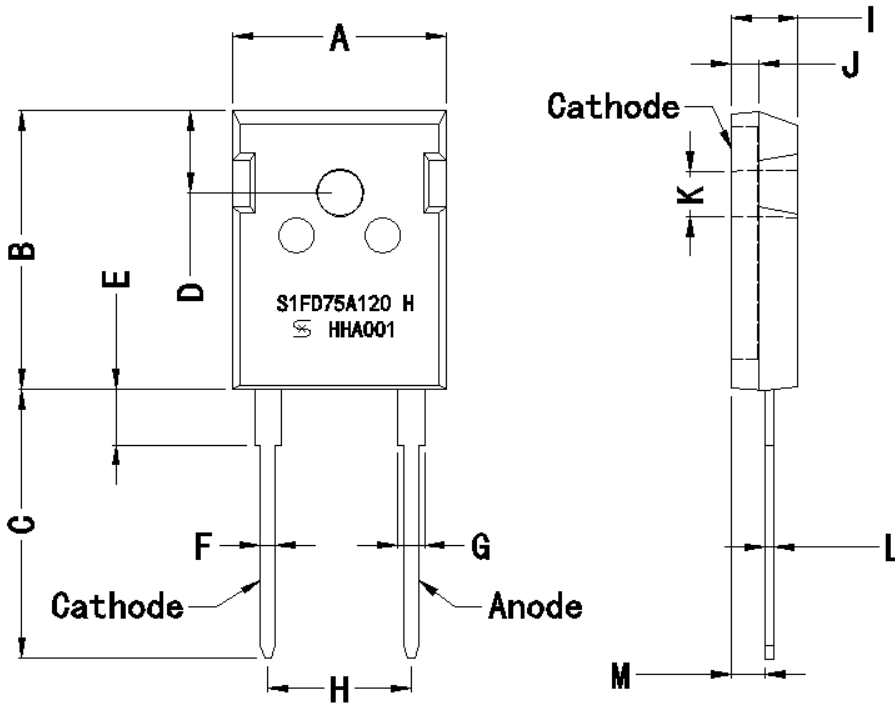


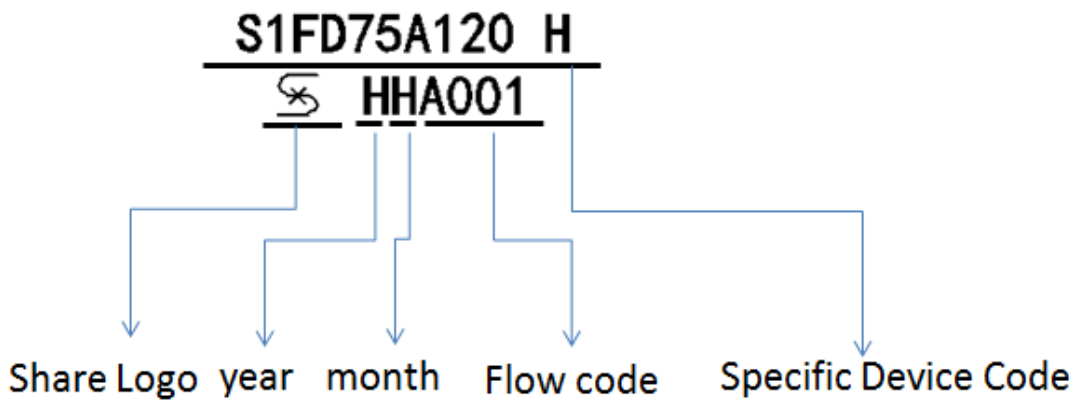
FIGURE 5. JUNCTION CAPACITANCE vs REVERSE VOLTAGE

Dimensioned drawing (T0-247)



Dim.	Millimeter		Inches	
	min	max	min	max
A	15.70	16.30	0.618	0.641
B	20.70	21.30	0.814	0.838
C	19.80	20.80	0.779	0.818
D	6.05	6.35	0.238	0.249
E	4.00	4.40	0.157	0.173
F	1.00	1.30	0.039	0.051
G	1.80	2.20	0.070	0.086
H	10.50	11.10	0.413	0.437
I	4.70	5.30	0.185	0.208
J	1.70	2.30	0.066	0.090
K	3.5	3.8	0.138	0.149
L	0.55	0.75	0.021	0.029
M	2.30	2.70	0.090	0.106

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	黄晓艳	2020. 5. 26