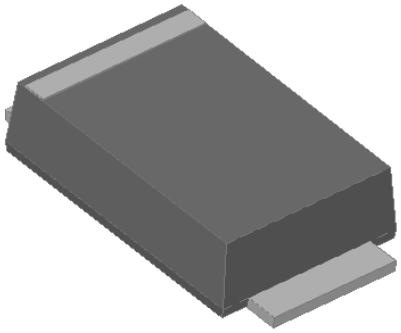
Surface Mount Schottky Rectifier

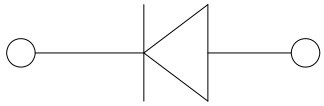


Features

- Low profile package
- Ideal for automated placement
- Guardring for overvoltage protection
- Low power losses, high efficiency
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

Typical Applications

For use in low voltage high frequency inverters, Freewheeling, DC/DC converters, and polarity protection Applications.



Mechanical Data

- **Package**: SMAF
  Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

■Maximum Ratings (Ta=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	S52F	S53F	S54F	S55F	S56F	S58F	S510F	S515F	S520F
Device marking code			S52F	S53F	S54F	S55F	S56F	S58F	S510F	S515F	S520F
Repetitive peak reverse voltage	V_{RRM}	V	20	30	40	50	60	80	100	150	200
Average rectified output current @60Hz sine wave, Resistance load, TL (FIG.1)	IO	A	5.0								
Surge(non-repetitive)forward current @60HZ Half-sine wave, 1 cycle, Tj=25℃	I_{FSM}	A	100								
Storage temperature	T_{stg}	℃	-55 ~+175								
Junction temperature	T_j	℃	-55~+150					-55 ~+175			

■Electrical Characteristics（T_a=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	S52F	S53F	S54F	S55F	S56F	S58F	S510F	S515F	S520F
Maximum instantaneous forward voltage drop per diode	V_F	V	I_{FM}=5.0A	0.60			0.70		0.85		0.90	
Maximum DC reverse current at rated DC blocking voltage per diode @ VRM=VRRM	I_R	mA	T_a=25℃	0.5					0.1			
			T_a=100℃	10					5			

Note1:Pulse test:300uS pulse widh,1% duty cycle

Note2:Pulse test:pulse widh 40mS

■Thermal Characteristics （T_a=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	S52F	S53F	S54F	S55F	S56F	S58F	S510F	S515F	S520F
Thermal Resistance	RθJ-A	℃/W	65[1]								
	RθJ-L		20[1]								

Note:
(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

■ Characteristics (Typical)

FIG1：Io-TL Curve

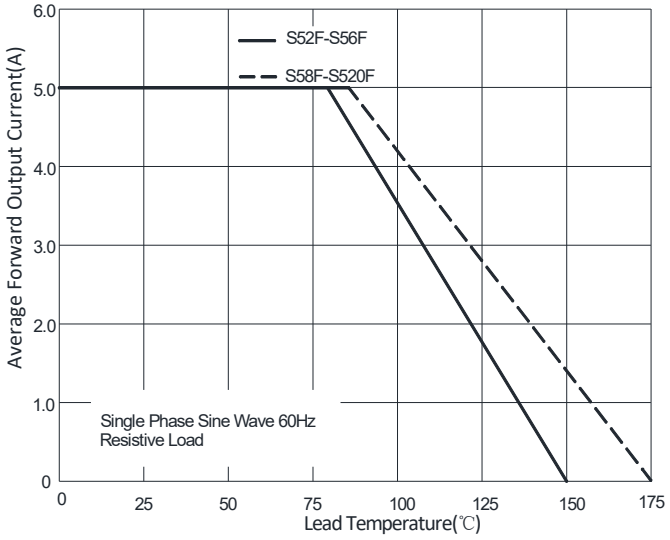


FIG2:Surge Forward Current Capadility

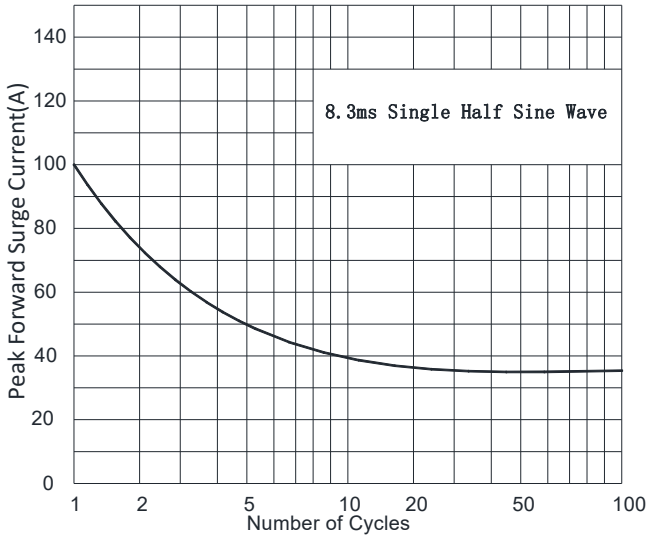


FIG3：Forward Voltage

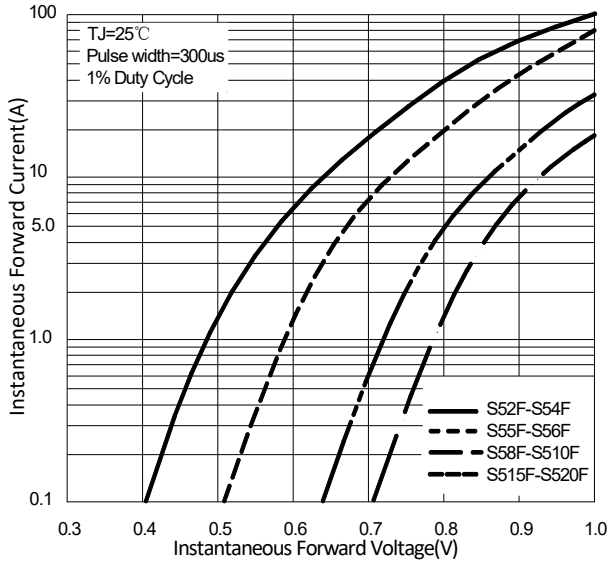
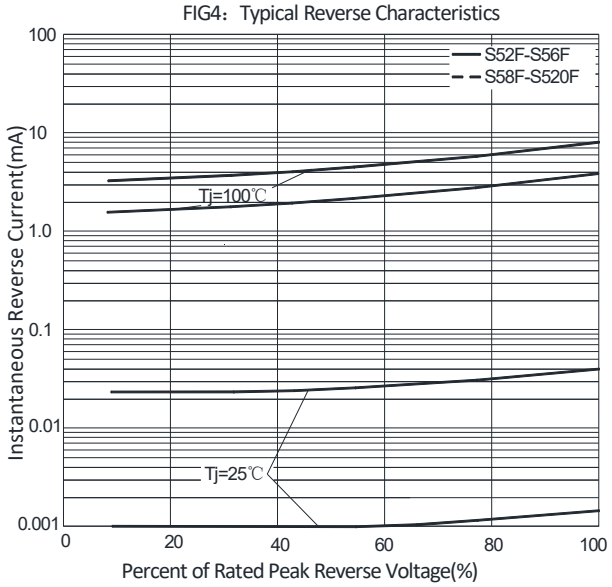


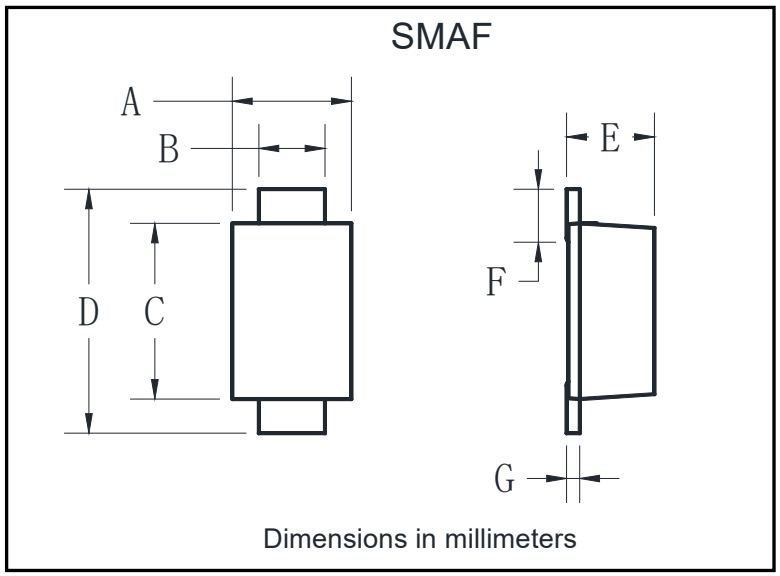
FIG4：Typical Reverse Characteristics



■Ordering Information (Example)

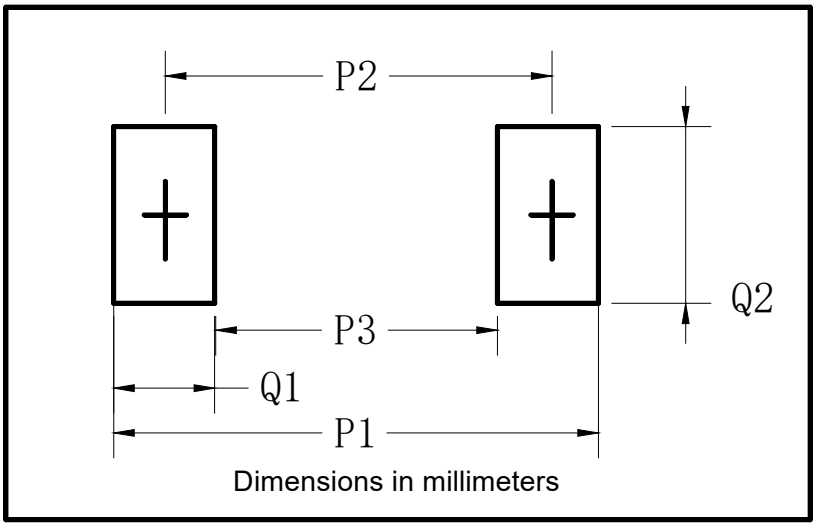
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
S52F-S520F	F1	Approximate 0.034	3000	24000	96000	7” reel
S52F-S520F	F2	Approximate 0.034	10000	20000	160000	13” reel
S52F-S520F	F3	Approximate 0.034	10000	20000	120000	13” reel
S52F-S520F	F4	Approximate 0.034	7500	15000	120000	13” reel

■ Outline Dimensions



SMAF		
Dim	Min	Max
A	2.40	2.80
B	1.35	1.45
C	3.40	3.60
D	4.40	4.80
E	1.05	1.25
F	0.50	1.00
G	0.15	0.25

■ Suggested pad layout



SMAF	
Dim	Millimeters
P1	6.50
P2	4.00
P3	1.50
Q1	2.50
Q2	1.70

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