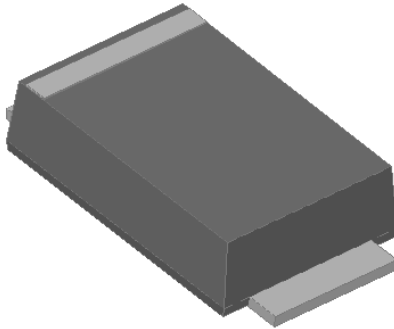


## Surface Mount Schottky Rectifier

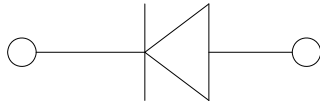


### Features

- Low profile package
- Ideal for automated placement
- Guardring for overvoltage protection
- Low VF
- 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°C Unless otherwise specified)

| PARAMETER   | SYMBOL | UNIT | SL54F     | SL545F | SL56F | SL510F |
|---|--------|------|-----------|--------|-------|--------|
| Device marking code   |        |      | SL54F     | SL545F | SL56F | SL510F |
| Repetitive peak reverse voltage   | VRRM   | V    | 40        | 45     | 60    | 100    |
| Average rectified output current @60Hz sine wave, Resistance load, Ta (FIG.1) | IO     | A    | 5.0       |        |       |        |
| Surge(non-repetitive)forward current @60HZ Half-sine wave, 1 cycle, Tj=25°C   | IFSM   | A    | 100       |        |       |        |
| Storage temperature   | Tstg   | °C   | -55 ~+150 |        |       |        |
| Junction temperature  | Tj     | °C   | -55 ~+150 |        |       |        |

### ■ Electrical Characteristics (Ta=25°C Unless otherwise specified)

| PARAMETER  | SYMBOL | UNIT | TEST CONDITIONS | SL54F | SL545F | SL56F | SL510F |
|--|--------|------|-----------------|-------|--------|-------|--------|
| Maximum instantaneous forward voltage drop per diode                         | VF     | V    | IFM=5.0A        | 0.45  |        | 0.50  | 0.65   |
| Maximum DC reverse current at rated DC blocking voltage per diode @ VRM=VRRM | IR     | mA   | Ta=25°C         | 0.5   |        |       | 0.1    |
|  |        |      | Ta=100°C        | 50    |        |       | 20     |

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

Note2:Pulse test:pulse width 40mS



# SL54F THRU SL510F

## ■ Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER          | SYMBOL                          | UNIT | SL54F            | SL545F | SL56F | SL510F |
|--------------------|---------------------------------|------|------------------|--------|-------|--------|
| Thermal Resistance | R <sub>θJ-A</sub>               | °C/W | 65 <sup>1)</sup> |        |       |        |
|                    | R <sub>θJ-L</sub> <sup>1)</sup> |      | 20 <sup>1)</sup> |        |       |        |

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: I<sub>o</sub>-T<sub>L</sub> Curve

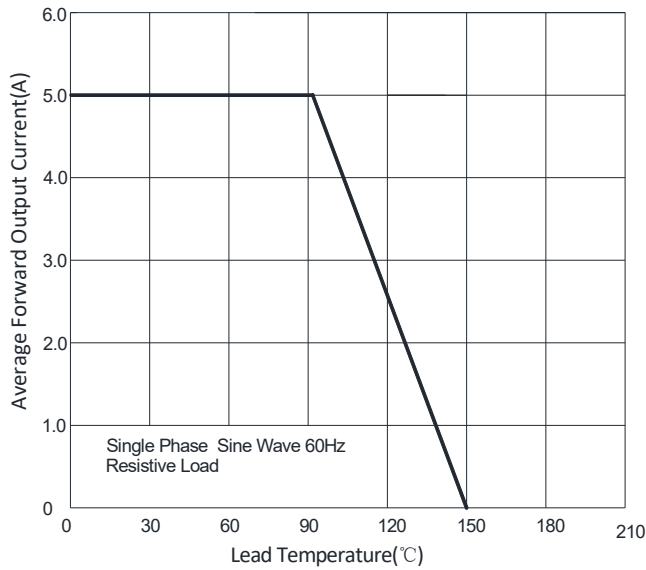


FIG2: Surge Forward Current Capability

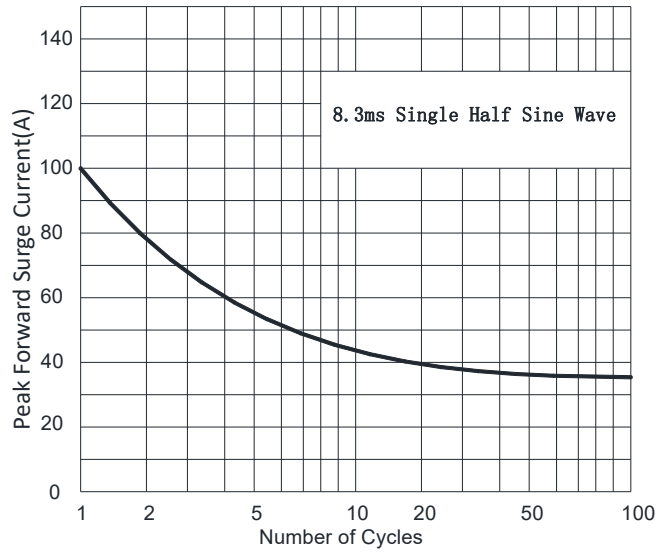


FIG3: Forward Voltage

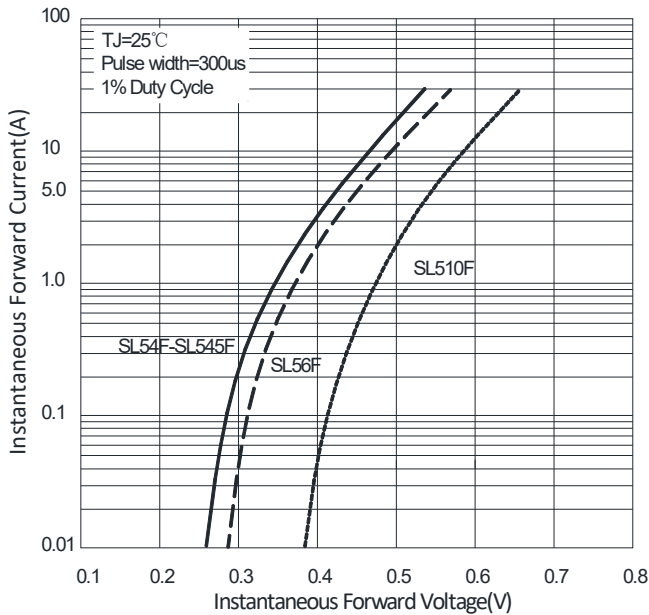
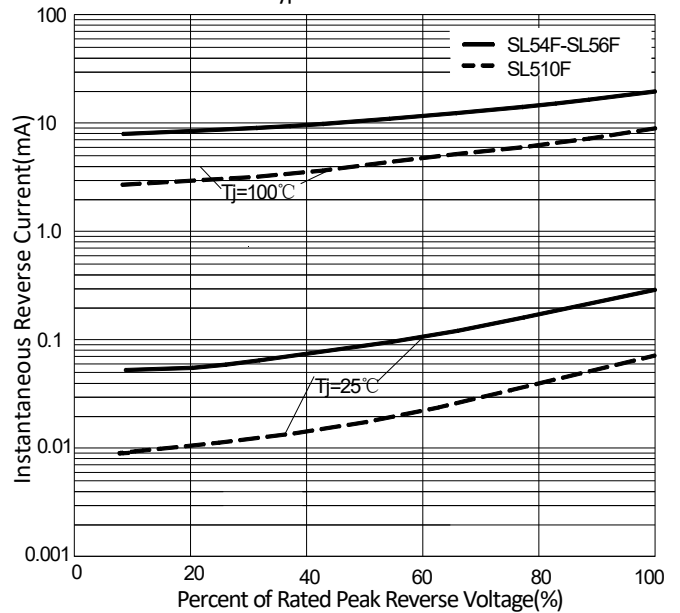


FIG4: Typical Reverse Characteristics



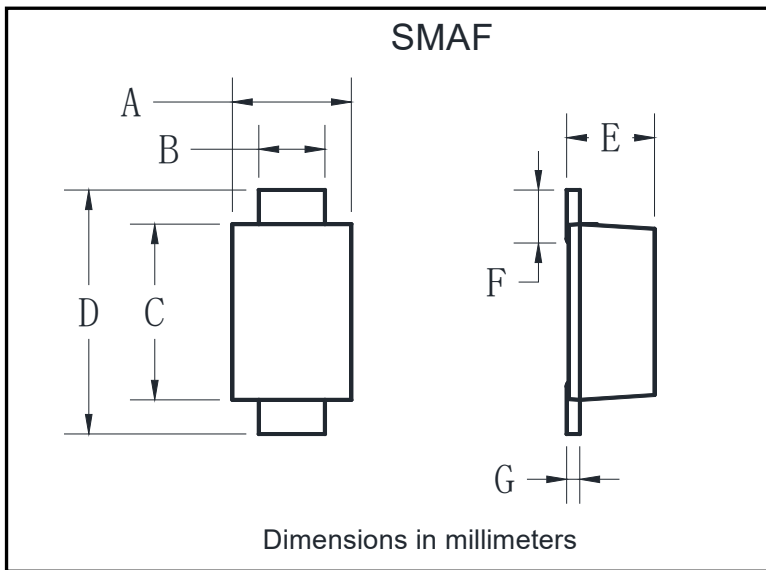


# SL54F THRU SL510F

## ■ Ordering Information (Example)

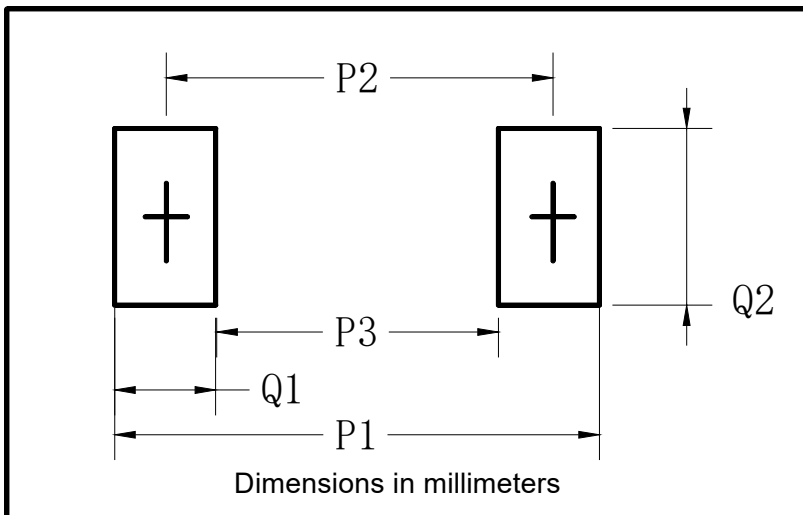
| PREFERRED P/N | PACKING CODE | UNIT WEIGHT(g)    | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| SL54F-SL510F  | F1           | Approximate 0.034 | 3000                 | 12000                   | 96000                      | 7" reel       |
| SL54F-SL510F  | F2           | Approximate 0.034 | 10000                | 20000                   | 160000                     | 13" reel      |
| SL54F-SL510F  | F3           | Approximate 0.034 | 10000                | 20000                   | 120000                     | 13" reel      |
| SL54F-SL510F  | 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 | 0.22 |

## ■ Suggested pad layout



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



## SL54F THRU SL510F

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