

Features

- Halogen Free. "Green" Device (Note 1)
- Fully Automotive Qualified to AEC-Q101
- Low Profile Package
- High Surge Capability
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant (Note 2)("P" Suffix Designates RoHS Compliant. See Ordering Information)

5 Amp Surface Mount Schottky Rectifier 40 to 60 Volts

Maximum Ratings @ 25°C (Unless Otherwise Specified)

| | | | Value | | |
|---|--------------------|----------|----------|------------------|--|
| Parameter | Symbol | SK54AQ-L | SK56AQ-L | Unit | |
| Peak Repetitive Reverse Voltage | V _{RRM} | | | | |
| Working Peak Reverse Voltage | V _{RWM} | 40 | 60 | V | |
| DC Blocking Voltage | V _R | | | | |
| RMS Reverse Voltage | V _{RMS} | 28 | 42 | V | |
| Average Rectified Forward Current @ T _L =80°C | I _{F(AV)} | Ę | 5 | А | |
| Non-Repetitive Peak Surge Current @8.3ms Half Sine Wave | I _{FSM} | 120 | | Α | |
| Current Squared Time @ 1ms≤t≤8.3ms | | 59.76 | | A ² s | |

Marking code

| Part Number | Marking code |
|-------------|--------------|
| SK54AQ-L | SK54A |
| SK56AQ-L | SK56A |

Internal Structure

| Pin | Description | Simplified outline | Graphic symbol |
|-----|-------------|--------------------------------------|----------------|
| 1 | cathode | MCC XXXX 2 | |
| 2 | anode | XXXX = Marking code YYWW = Date Code | 1 0 |

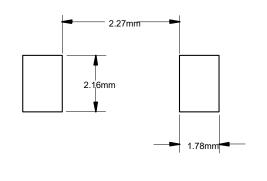
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.

SMA (DO-214AC)

| DIMENSIONS | | | | | |
|------------|--------|-------|-------|-------|------|
| DIM | INCHES | | MM | | NOTE |
| DIIVI | MIN | MAX | MIN | MAX | NOTE |
| Α | 0.075 | 0.096 | 1.90 | 2.44 | |
| В | 0.050 | 0.064 | 1.27 | 1.63 | |
| С | 0.002 | 0.008 | 0.051 | 0.203 | |
| D | | 0.020 | | 0.51 | |
| E | 0.030 | 0.060 | 0.76 | 1.52 | |
| F | 0.065 | 0.091 | 1.65 | 2.32 | |
| G | 0.189 | 0.220 | 4.80 | 5.59 | |
| Н | 0.157 | 0.187 | 4.00 | 4.75 | |
| J | 0.090 | 0.115 | 2.25 | 2.92 | |

SUGGESTED SOLDER PAD LAYOUT





Thermal characteristics

| Symbol | Parameter | Conditions | Min | Тур | Max | Unit |
|----------------------|---|------------|-----|-----|-----|------|
| T _J | Operating Junction Temperature Range | | -55 | | 150 | °C |
| T _{stg} | Storage Temperature Range | | -55 | | 150 | °C |
| Rth _(J-L) | Thermal Resistance from Junction to Lead | Note 1 | | 22 | | °C/W |
| Rth _(J-A) | Thermal Resistance from Junction to Ambient | Note 1 | | 65 | | °C/W |

Note:

Electrical Characteristics @ 25°C Unless Otherwise Specified

| Paramete | er | Symbol | Test Conditions | Min | Тур | Max | Unit |
|---------------------|----------------------|----------------|--|-----|------------|------|------|
| Forward Voltage | | | | | | | |
| | SK54AQ-L | V _F | $I_F=5A;T_J=25^{\circ}C$ | | 0.52 | 0.60 | |
| | | | $I_F=5A;T_J=125$ °C | | 0.45 | 0.54 | V |
| | SK56AQ-L | | I _F =5A;T _J =25°C | | 0.63 | 0.70 | |
| | | | $I_F = 5A; T_J = 125$ °C | | 0.58 | 0.63 | |
| Reverse Current | | | | | | | |
| | SK54AQ-L | I _R | at Rated V _R ;T _J =25°C | | | 0.1 | mA |
| | | | at Rated V _R ;T _J =125°C | | | 20 | |
| | SK56AQ-L | | at Rated V _R ;T _J =25°C | | | 0.1 | |
| | | | at Rated V _R ;T _J =125°C | | | 20 | |
| Junction Capacitano | e | | | | | | |
| | SK54AQ-L SK56AQ-L | CJ | $V_R=4V; f=1MHz; T_J=25$ °C | | 265 215 | | pF |

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^{1.}Mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper.



Curve Characteristics

Fig. 1 - Forward Current Derating Curve 6 Average Forward Current (A) 3 Resistive or Inductive Load 100 25 125 0 50 75 150

Lead Temperature (°C)

Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current 150 8.3 ms Single Half Sine-Wave 0 10 100 Number of Cycles at 60 Hz

Fig. 3 - Typical Forward Characteristics

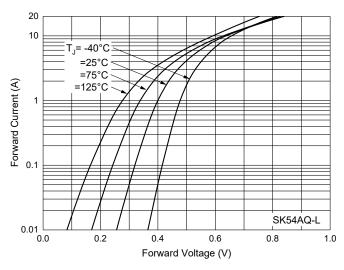


Fig. 4 - Typical Reverse Leakage Characteristics

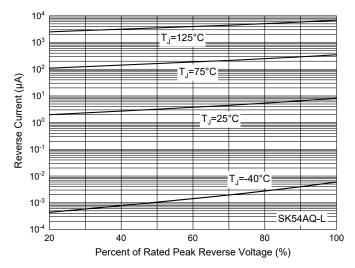


Fig. 5 - Typical Forward Characteristics

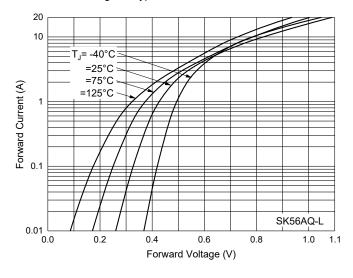
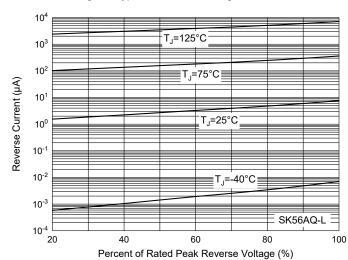


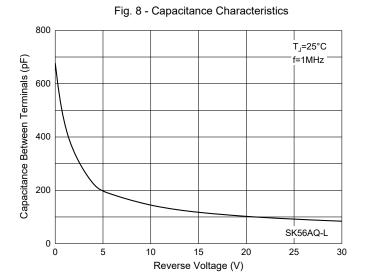
Fig. 6 - Typical Reverse Leakage Characteristics





Curve Characteristics

Fig. 7 - Capacitance Characteristics 1000 T_J=25°C Capacitance Between Terminals (pF) f=1MHz 800 600 400 SK54AQ-L 5 10 15 20 25 30 Reverse Voltage (V)



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Ordering Information

| Device | Packing | |
|-------------------------|----------------------|--|
| SK54AQ-LTP ~ SK56AQ-LTP | Tape&Reel:5Kpcs/Reel | |

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