

## 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)

## Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value		Unit
		SK510AQ-L	SK520AQ-L	
Peak Repetitive Reverse Voltage	$V_{RRM}$	100	200	V
Working Peak Reverse Voltage	$V_{RWM}$			
DC Blocking Voltage	$V_R$			
RMS Reverse Voltage	$V_{RMS}$	70	140	V
Average Rectified Forward Current @ $T_L=80^\circ\text{C}$	$I_{F(AV)}$	5		A
Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave	$I_{FSM}$	120		A
Current Squared Time @ $1\text{ms} \leq t \leq 8.3\text{ms}$	$I^2t$	59.76		A <sup>2</sup> s

## Marking code

Part Number	Marking code
SK510AQ-L	SK510A
SK520AQ-L	SK520A

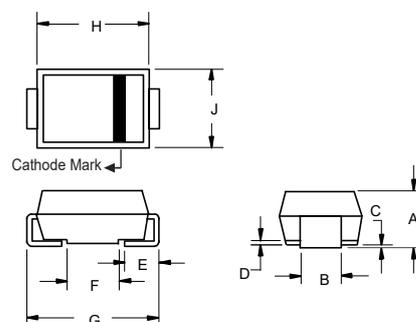
## Internal Structure

Pin	Description	Simplified outline	Graphic symbol
1	cathode	<p>XXXX = Marking code YYWW = Date Code</p>	
2	anode		

- 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.

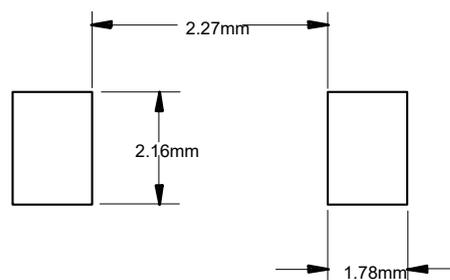
# 5 Amp Surface Mount Schottky Rectifier 100 to 200 Volts

## SMA (DO-214AC)



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.075	0.096	1.90	2.44	
B	0.050	0.064	1.27	1.63	
C	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	
H	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	Typ	Max	Unit
$T_J$	Operating Junction Temperature Range		-55		175	°C
$T_{stg}$	Storage Temperature Range		-55		175	°C
$R_{th(J-L)}$	Thermal Resistance from Junction to Lead	Note 1		22		°C/W
$R_{th(J-A)}$	Thermal Resistance from Junction to Ambient	Note 1		65		°C/W

Note:

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

## Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Forward Voltage	SK510AQ-L	$V_F$		$I_F=5A; T_J=25^\circ C$	0.77	0.80	V
				$I_F=5A; T_J=125^\circ C$	0.63	0.70	
	SK520AQ-L	$I_F=5A; T_J=25^\circ C$	0.82	0.90			
		$I_F=5A; T_J=125^\circ C$	0.69	0.80			
Reverse Current	SK510AQ-L	$I_R$		at Rated $V_R; T_J=25^\circ C$		5	uA
				at Rated $V_R; T_J=125^\circ C$		200	
	SK520AQ-L	at Rated $V_R; T_J=25^\circ C$		5			
		at Rated $V_R; T_J=125^\circ C$		150			
Junction Capacitance	SK510AQ-L SK520AQ-L	$C_J$		$V_R=4V; f=1MHz; T_J=25^\circ C$	150		pF
					100		

**Curve Characteristics**

Fig. 1 - Forward Current Derating Curve

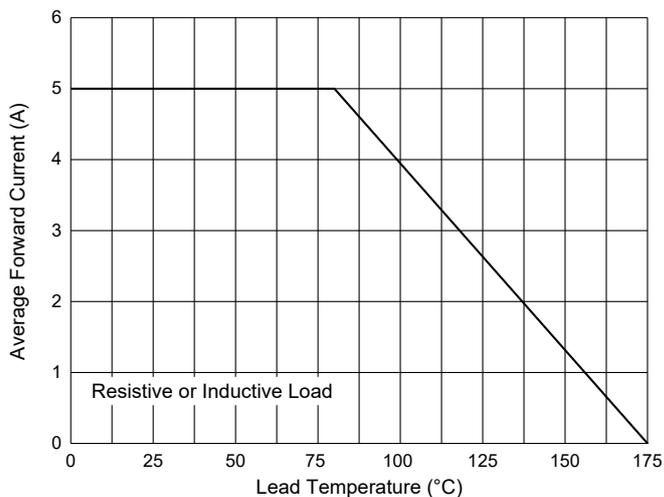


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

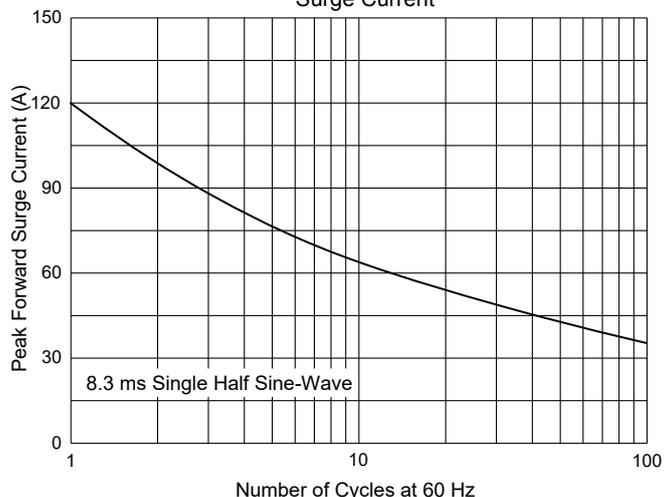


Fig. 3 - Typical Forward Characteristics

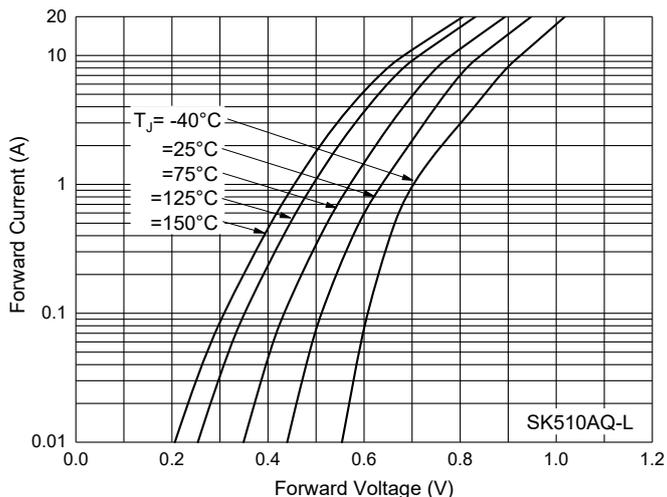


Fig. 4 - Typical Reverse Leakage Characteristics

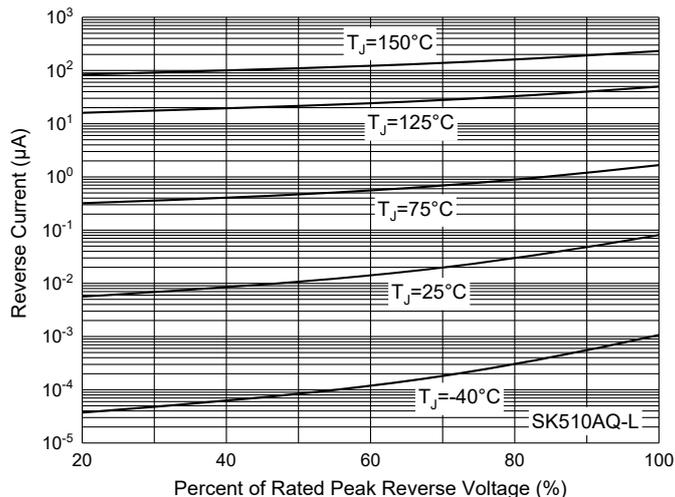


Fig. 5 - Typical Forward Characteristics

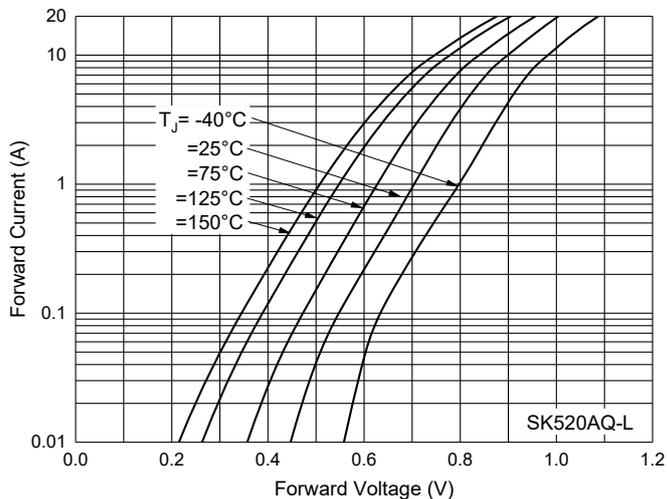
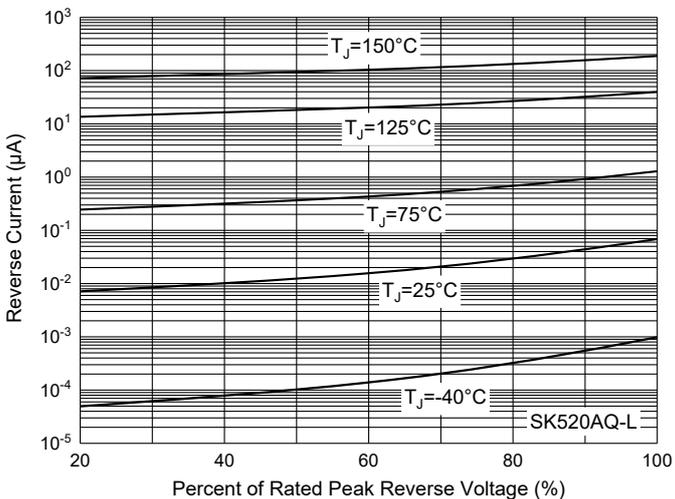


Fig. 6 - Typical Reverse Leakage Characteristics



**Curve Characteristics**

Fig. 7 - Capacitance Characteristics

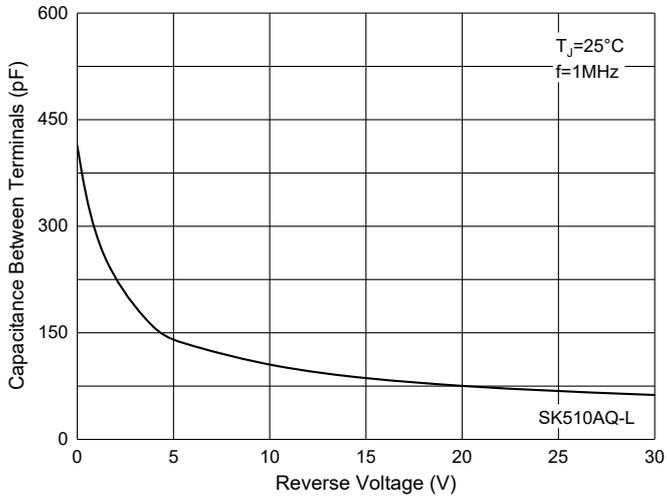
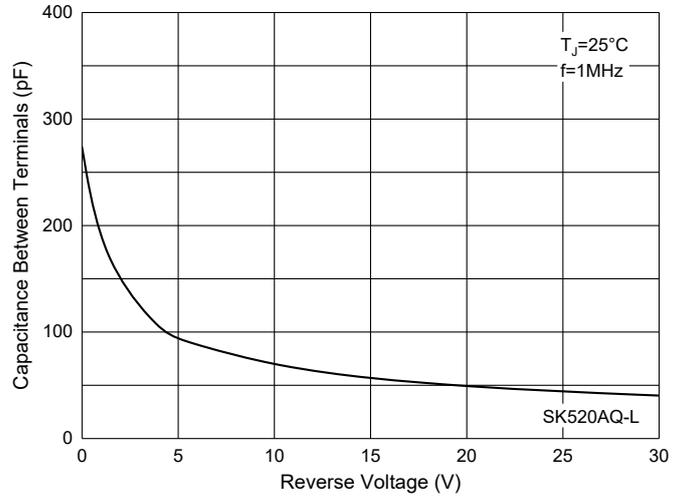


Fig. 8 - Capacitance Characteristics



## Ordering Information

Device	Packing
SK510AQ-LTP ~ SK520AQ-LTP	Tape&Reel:5Kpcs/Reel

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