

## 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
		SK510BQ-L	SK520BQ-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 @ $T_L=90^\circ\text{C}$	$I_{F(AV)}$	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		$\text{A}^2\text{s}$

## Marking code

Part Number	Marking code
SK510BQ-L	SK510B
SK520BQ-L	SK520B

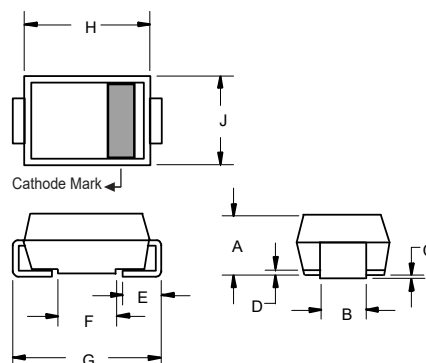
## Internal Structure

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.

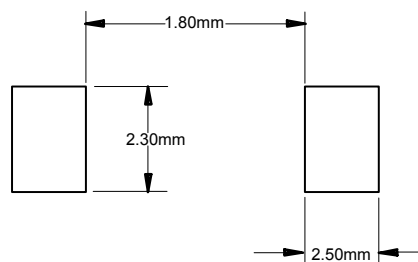
# 5 Amp Surface Mount Schottky Rectifier 100 to 200 Volts

## DO-214AA (SMB) (LEAD FRAME)



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.079	0.103	2.00	2.62	
B	0.075	0.087	1.91	2.21	
C	0.002	0.008	0.05	0.20	
D	0.006	0.012	0.15	0.31	
E	0.030	0.060	0.76	1.52	
F	0.065	0.091	1.65	2.32	
G	0.200	0.220	5.08	5.59	
H	0.160	0.191	4.06	4.85	
J	0.130	0.155	3.30	3.94	

## 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		20		°C/W
$R_{th(J-A)}$	Thermal Resistance from Junction to Ambient	Note 1		60		°C/W

Note:

1. Mounted on P.C.B. with 0.6" x 0.6" (16 mm x 16 mm) copper pad areas.

## Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage						
SK510BQ-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	
SK520BQ-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						
SK510BQ-L	$I_R$	at Rated $V_R; T_J=25^{\circ}C$			5	uA
		at Rated $V_R; T_J=125^{\circ}C$			200	
SK520BQ-L		at Rated $V_R; T_J=25^{\circ}C$			5	
		at Rated $V_R; T_J=125^{\circ}C$			150	
Junction Capacitance						
SK510BQ-L	$C_J$	$V_R=4V; f=1MHz; T_J=25^{\circ}C$		150		pF
SK520BQ-L				100		

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

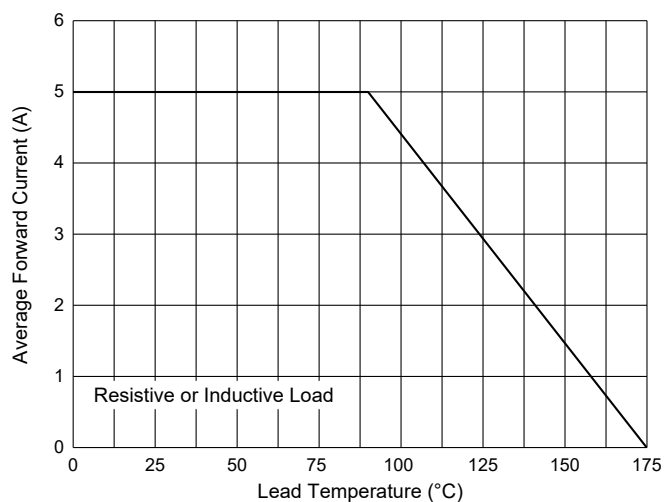


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

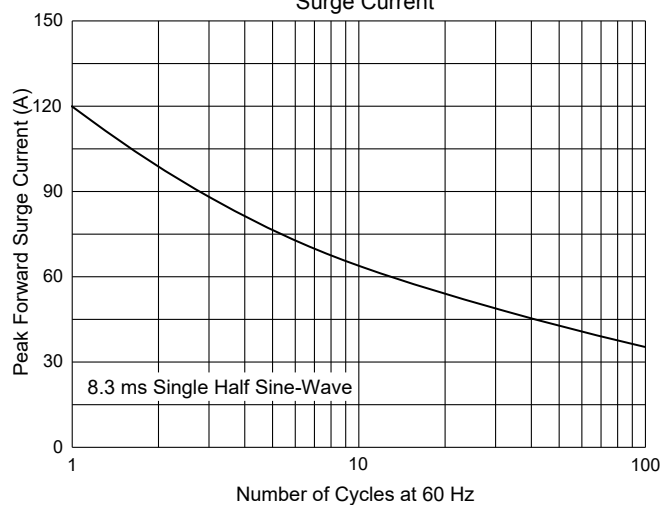


Fig. 3 - Typical Forward Characteristics

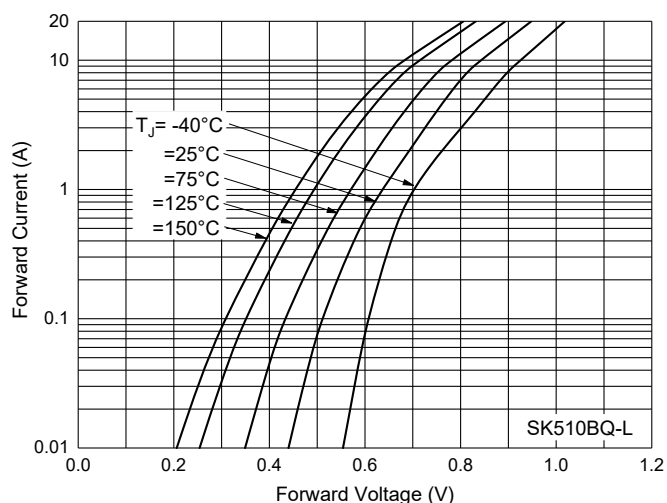


Fig. 4 - Typical Reverse Leakage Characteristics

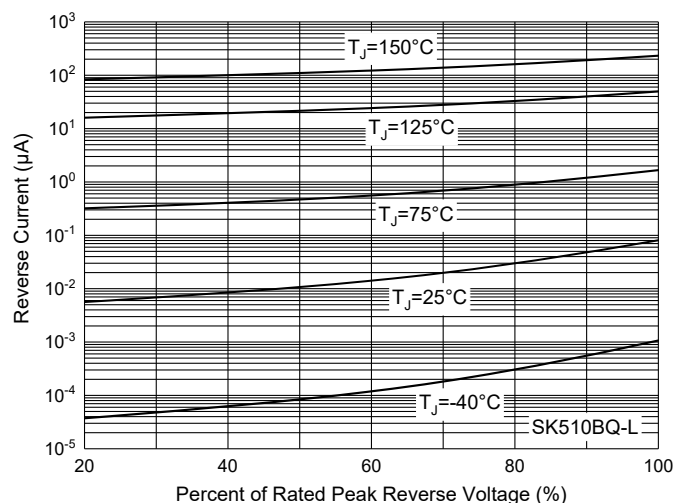


Fig. 5 - Typical Forward Characteristics

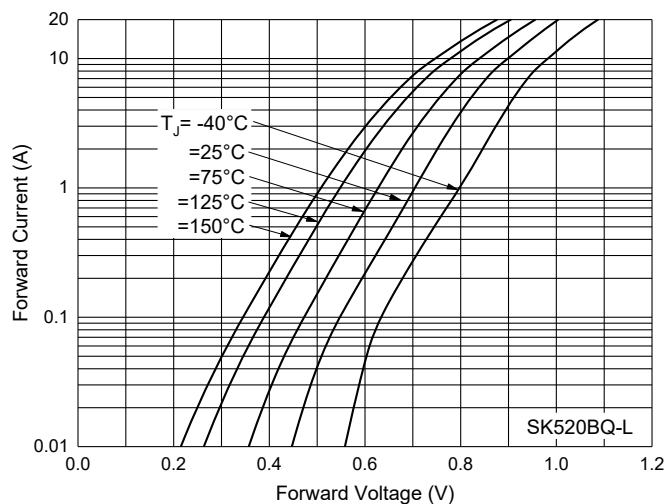
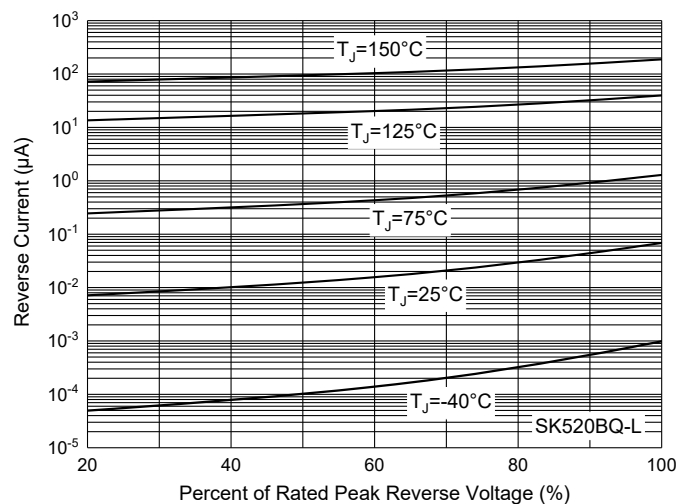


Fig. 6 - Typical Reverse Leakage Characteristics



## Curve Characteristics

Fig. 7 - Capacitance Characteristics

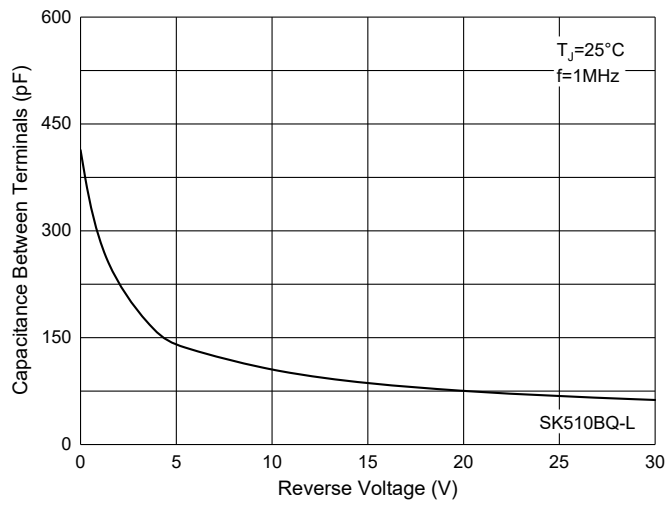
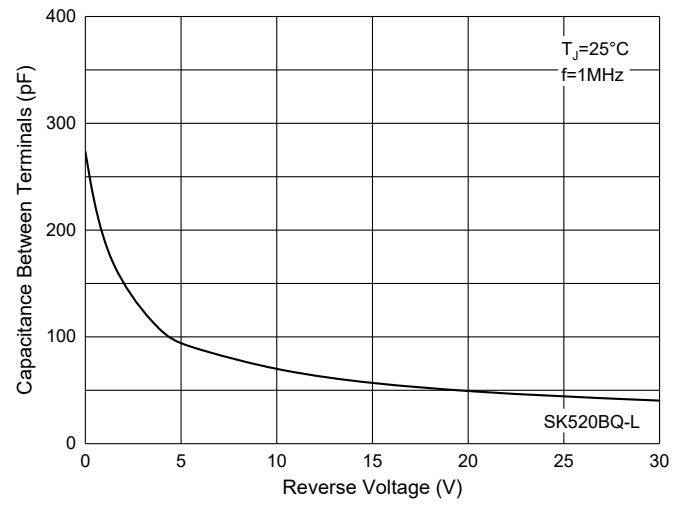


Fig. 8 - Capacitance Characteristics



## Ordering Information

Device	Packing
SK510BQ-LTP ~ SK520BQ-LTP	Tape&Reel:3Kpcs/Reel

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