



# SURFACE MOUNT SCHOTTKY BARRIER DIODE

#### **Features**

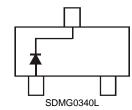
- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- Lead Free/RoHS Compliant (Note 3)
- "Green" Device (Note 4 and 5)

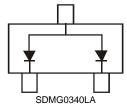
#### **Mechanical Data**

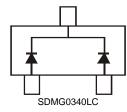
- Case: SOT-323
- Case Material: Molded Plastic, "Green" Molding Compound, Note 5. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Solderable Per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe)
- Terminal Connections: See Diagram
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.006 grams (approximate)

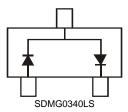


Top View









### **Maximum Ratings** @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	Vrrm Vrwm Vr	40	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	28	V
Forward Continuous Current (Note 1)	I <sub>FM</sub>	30	mA
Non-Repetitive Peak Forward Surge Current @ t = 8.3ms	I <sub>FSM</sub>	200	mA

#### Thermal Characteristics

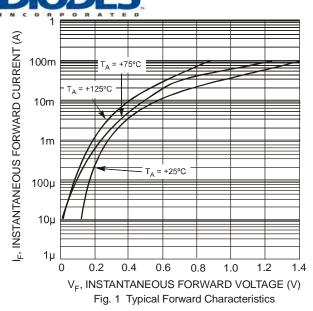
Characteristic	Symbol	Value	Unit	
Power Dissipation (Note 1)	$P_{D}$	200	mW	
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{ hetaJA}$	625	°C/W	
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-40 to +125	°C	

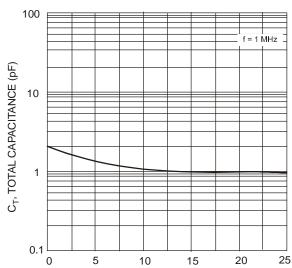
# **Electrical Characteristics** @T<sub>A</sub> = 25°C unless otherwise specified

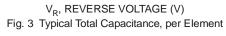
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	40		_	V	$I_R = 10\mu A$
Forward Voltage	VF	_	295	370	mV	I <sub>F</sub> = 1.0mA
Leakage Current (Note 2)	$I_R$	_	150	1000	nA	V <sub>R</sub> = 10V
Total Capacitance	C <sub>T</sub>	_	2.0	_	pF	$V_R = 1V, f = 1.0MHz$

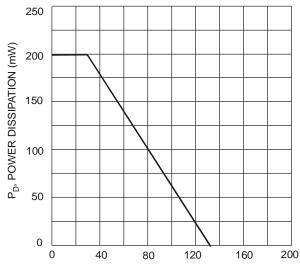
Notes:

- 1. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
- 2. Short duration pulse test used to minimize self-heating effect.
- 3. No purposefully added lead.
- 4. Diodes Inc.'s "Green" Policy can be found on our website at http://www.diodes.com/products/lead\_free/index.php.
- 5. Product manufactured with date code 0627 (week 27, 2006) and newer are built with Green Molding Compound. Product manufactured prior to date code 0627 are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.



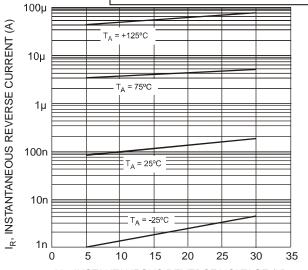






T<sub>A</sub>, AMBIENT TEMPERATURE (°C) Fig. 5 Power Derating Curve, Total Package

## SDMG0340L/LA/LC/LS



V<sub>R</sub>, INSTANTANEOUS REVERSE VOLTAGE (V) Fig. 2 Typical Reverse Characteristics

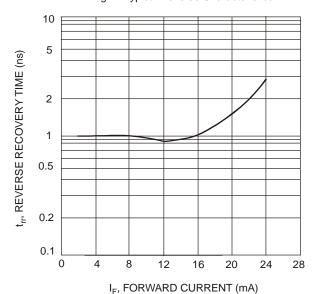


Fig. 4 Typical Reverse Recovery Time Characteristics

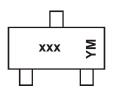


## Ordering Information (Notes 5 & 6)

Device	Packaging	Shipping
SDMG0340L-7-F	SOT-323	3000/Tape & Reel
SDMG0340LA-7-F	SOT-323	3000/Tape & Reel
SDMG0340LC-7-F	SOT-323	3000/Tape & Reel
SDMG0340LS-7-F	SOT-323	3000/Tape & Reel

Notes: 6. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

### **Marking Information**



xxx = Product Type Marking Code

KSM = SDMG0340L

KSQ = SDMG0340LA

KSP = SDMG0340LC

KSN = SDMG0340LS

YM = Date Code Marking

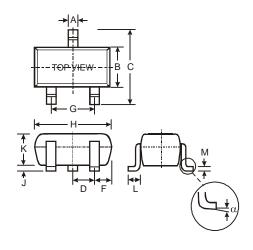
Y = Year (ex: N = 2002)

M = Month (ex: 9 = September)

#### Date Code Kev

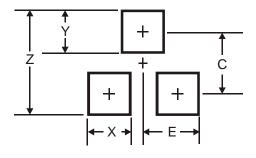
Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	М	N	Р	R	S	Т	U	V	W	X	Υ	Z	Α	В	С
Month	Jan	Fe	b	Mar	Apr	May	Ju	n	Jul	Aug	Sep	Ос	t N	Nov	Dec
Code	1	2		3	4	5	6	;	7	8	9	0		N	D

## **Package Outline Dimensions**



SOT-323							
Dim	Min	Max	Тур				
Α	0.25	0.40	0.30				
В	1.15	1.35	1.30				
C	2.00	2.20	2.10				
D	-	-	0.65				
F	0.30	0.40	0.425				
G	1.20	1.40	1.30				
H	1.80	2.20	2.15				
J	0.0	0.10	0.05				
K	0.90	1.00	1.00				
L	0.25	0.40	0.30				
M	0.10	0.18	0.11				
α	0°	8°	-				
All Dimensions in mm							

# **Suggested Pad Layout**



Dimensions	Value (in mm)
Z	2.8
Х	0.7
Υ	0.9
С	1.9
E	1.0





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