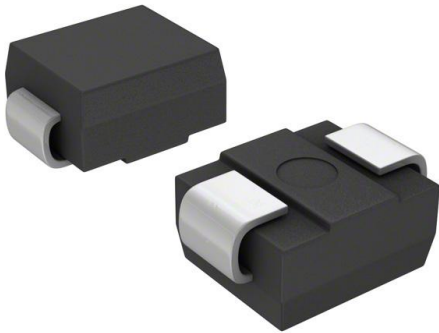


# S2K-M3/5BT Datasheet

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DiGi Electronics Part Number	S2K-M3/5BT-DG
Manufacturer	<a href="#">Vishay General Semiconductor - Diodes Division</a>
Manufacturer Product Number	S2K-M3/5BT
Description	DIODE GEN PURP 800V 1.5A DO214AA
Detailed Description	Diode 800 V 1.5A Surface Mount DO-214AA (SMB)

This model S2K-M3/5BT is available at DiGi Electronics.

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## Purchase and inquiry

Manufacturer Product Number:

S2K-M3/5BT

Series:

-

Technology:

Standard

Current - Average Rectified (Io):

1.5A

Speed:

Standard Recovery >500ns, > 200mA (Io)

Current - Reverse Leakage @ Vr:

1  $\mu$ A @ 800 V

Mounting Type:

Surface Mount

Supplier Device Package:

DO-214AA (SMB)

Base Product Number:

S2K

Manufacturer:

Vishay General Semiconductor - Diodes Division

Product Status:

Active

Voltage - DC Reverse (Vr) (Max):

800 V

Voltage - Forward (Vf) (Max) @ If:

1.15 V @ 1.5 A

Reverse Recovery Time (trr):

2  $\mu$ s

Capacitance @ Vr, F:

16pF @ 4V, 1MHz

Package / Case:

DO-214AA, SMB

Operating Temperature - Junction:

-55°C ~ 150°C

## Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.10.0080

Moisture Sensitivity Level (MSL):

1 (Unlimited)

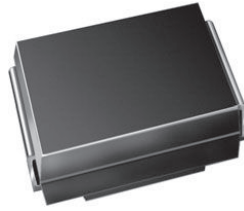
ECCN:

EAR99


[www.vishay.com](http://www.vishay.com)
**S2A, S2B, S2D, S2G, S2J, S2K, S2M**

Vishay General Semiconductor

## Surface Mount Glass Passivated Rectifier


**SMB (DO-214AA)**

 Cathode  Anode

### LINKS TO ADDITIONAL RESOURCES


[3D Models](#)

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	1.5 A
$V_{RRM}$	50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V
$I_{FSM}$	50 A
$I_R$	1.0 $\mu$ A
$V_F$	1.15 V
$T_J$ max.	175 °C
Package	SMB (DO-214AA)
Circuit configuration	Single

### FEATURES

- Low profile package
- Ideal for automated placement
- Glass passivated pellet chip junction
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- AEC-Q101 qualified available
  - Automotive ordering code: base P/NHE3 or P/NHM3
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

 AUTOMOTIVE  
GRADE  
Available

**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**

### TYPICAL APPLICATIONS

For use in general purpose rectification of power supplies, inverters, converters and freewheeling diodes for consumer, automotive and telecommunication.

### MECHANICAL DATA

**Case:** SMB (DO-214AA)

Molding compound meets UL 94 V-0 flammability rating

Base P/N-E3 - RoHS-compliant, commercial grade

Base P/N-M3 - halogen-free, RoHS-compliant, commercial grade

Base P/NHE3\_X - RoHS-compliant and AEC-Q101 qualified

Base P/NHM3\_X - halogen-free, RoHS-compliant and AEC-Q101 qualified (“\_X” denotes revision code e.g. A, B,.....)

**Terminals:** matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3, M3, HE3, and HM3 suffix meets JESD 201 class 2 whisker test

**Polarity:** color band denotes cathode end

MAXIMUM RATINGS ( $T_A = 25\text{ °C}$ unless otherwise noted)									
PARAMETER	SYMBOL	S2A	S2B	S2D	S2G	S2J	S2K	S2M	UNIT
Device marking code		SA	SB	SD	SG	SJ	SK	SM	
Max. repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Max. RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Max. DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Max. average forward rectified current at $T_L = 125\text{ °C}$	$I_{F(AV)}$	1.5							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	50							A
Operating and storage temperature range	$T_J, T_{STG}$	-55 to +175							°C



<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)										
PARAMETER	TEST CONDITIONS	SYMBOL	S2A	S2B	S2D	S2G	S2J	S2K	S2M	UNIT
Max. instantaneous forward voltage	1.5 A	$V_F$	1.15							V
Max. DC reverse current at rated DC blocking voltage	$T_J = 25\text{ }^\circ\text{C}$	$I_R$	1.0							$\mu\text{A}$
	$T_J = 125\text{ }^\circ\text{C}$		125							
Typical reverse recovery time	$I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ , $I_{rr} = 0.25\text{ A}$	$t_{rr}$	2.0							$\mu\text{s}$
Typical junction capacitance	4.0 V, 1 MHz	$C_J$	16							pF

<b>THERMAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)										
PARAMETER	SYMBOL	S2A	S2B	S2D	S2G	S2J	S2K	S2M	UNIT	
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$	53							$^\circ\text{C/W}$	
	$R_{\theta JL}$	16								

**Note**

<sup>(1)</sup> Thermal resistance from junction to ambient and from junction to lead mounted on PCB with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad areas

<b>ORDERING INFORMATION</b> (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
S2J-E3/52T	0.096	52T	750	7" diameter plastic tape and reel
S2J-E3/5BT	0.096	5BT	3200	13" diameter plastic tape and reel
S2JHE3_A/H <sup>(1)</sup>	0.096	H	750	7" diameter plastic tape and reel
S2JHE3_A/I <sup>(1)</sup>	0.096	I	3200	13" diameter plastic tape and reel
S2J-M3/52T	0.096	52T	750	7" diameter plastic tape and reel
S2J-M3/5BT	0.096	5BT	3200	13" diameter plastic tape and reel
S2JHM3_A/H <sup>(1)</sup>	0.096	H	750	7" diameter plastic tape and reel
S2JHM3_A/I <sup>(1)</sup>	0.096	I	3200	13" diameter plastic tape and reel

**Note**

<sup>(1)</sup> AEC-Q101 qualified

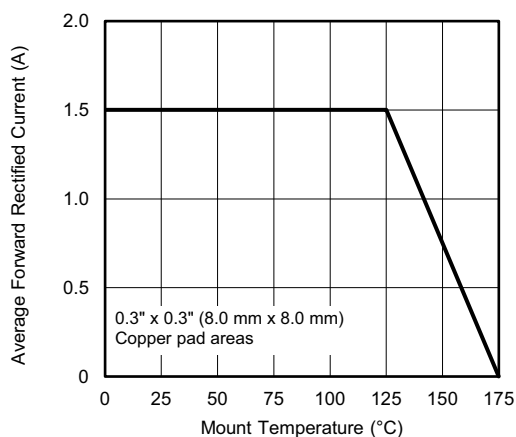
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

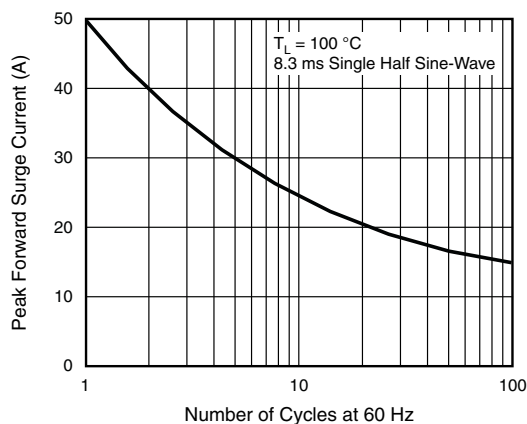


Fig. 2 - Max. Non-Repetitive Peak Forward Surge Current



# S2A, S2B, S2D, S2G, S2J, S2K, S2M

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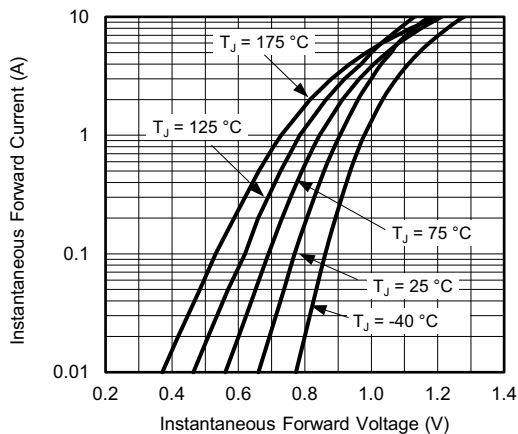


Fig. 3 - Typical Instantaneous Forward Characteristics

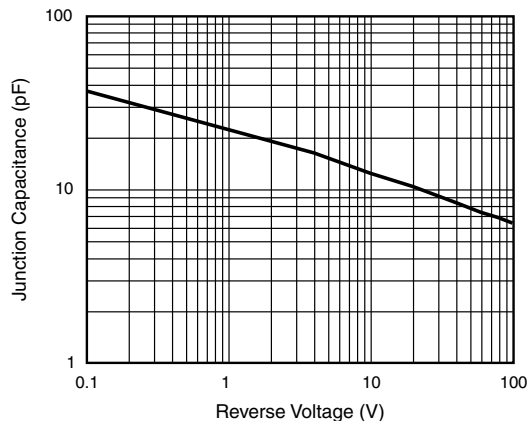


Fig. 5 - Typical Junction Capacitance

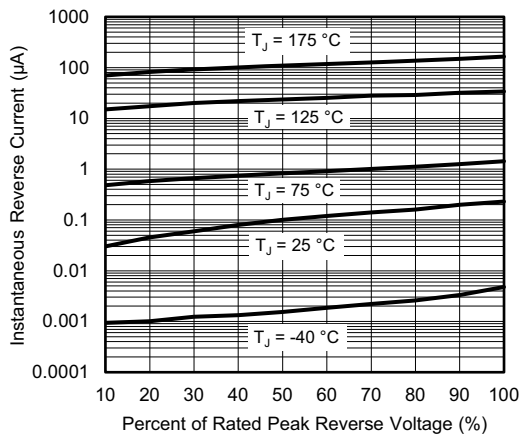


Fig. 4 - Typical Reverse Characteristics

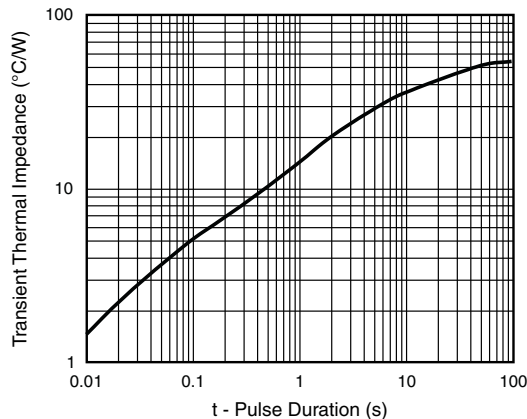
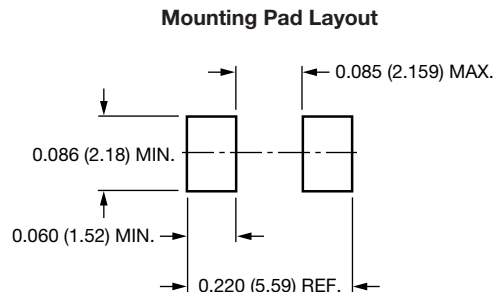
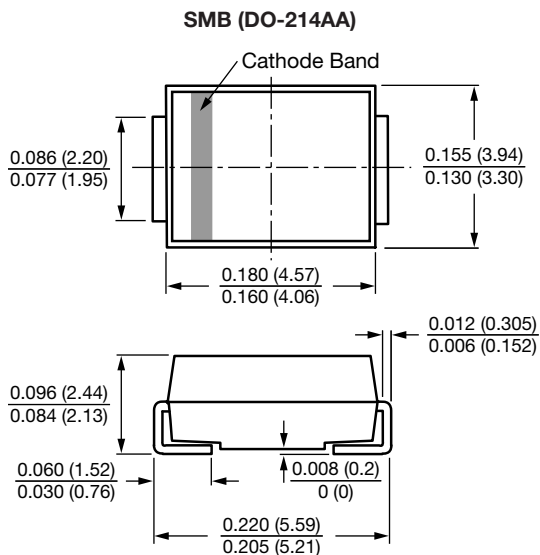


Fig. 6 - Typical Transient Thermal Impedance

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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