

Product Summary (@ $T_A = +25^\circ\text{C}$)

V_{RRM} (V)	I_O (A)	$V_{F(MAX)}$ (V)	$I_{R(MAX)}$ (μA)
40	3	0.45	300

Features and Benefits

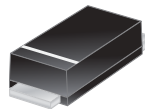
- Low Leakage Current
- Soft, Fast Switching Capability
- +150°C Operating Junction Temperature
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

Applications

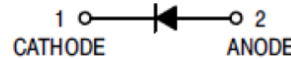
- SMPS
- AC-DC
- DC-DC Converter
- Freewheeling Diodes
- Reverse Polarity Protection
- Blocking Diodes

Mechanical Data

- Case: SMA-FS
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Lead Free Plating (Matte Tin Finish.) Solderable per MIL-STD-202, Method 208
- Polarity Indicator: Cathode Band
- Weight: 0.033 grams (Approximate)

SMA-FS


Top View

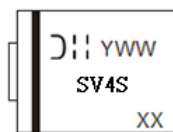


Schematic View

Ordering Information (Note 4)

Part Number	Compliance	Case	Packaging
SDT3A40SAFS-13	Commercial	SMA-FS	10,000/Tape & Reel

- Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
 2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 4. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

Marking Information (Note 5)


- SV4S = Product Type Marking Code
- J:: = Manufacturers' Code Marking
- YWW = Date Code Marking
- Y = Last Digit of Year (ex: 8 for 2018)
- WW = Week Code 01 to 52
- XX = Foundry and Assembly Site

Note: 5. Device has a cathode band (as shown above) and may also have a cathode notch.

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	40	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _{RM}		
Average Rectified Output Current	I _O	3	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	60	A

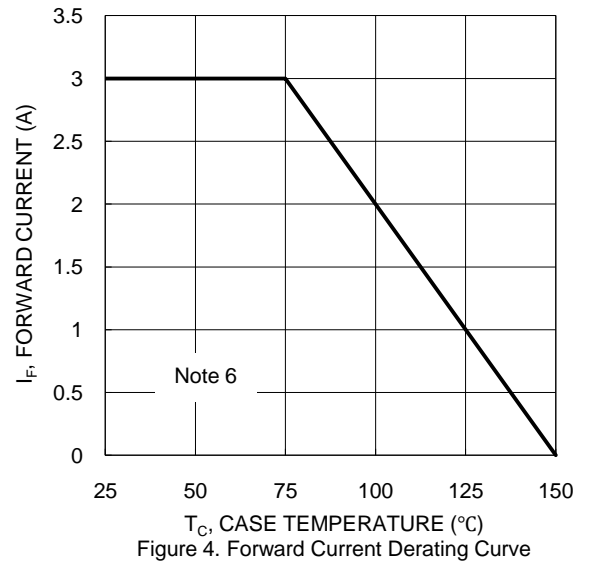
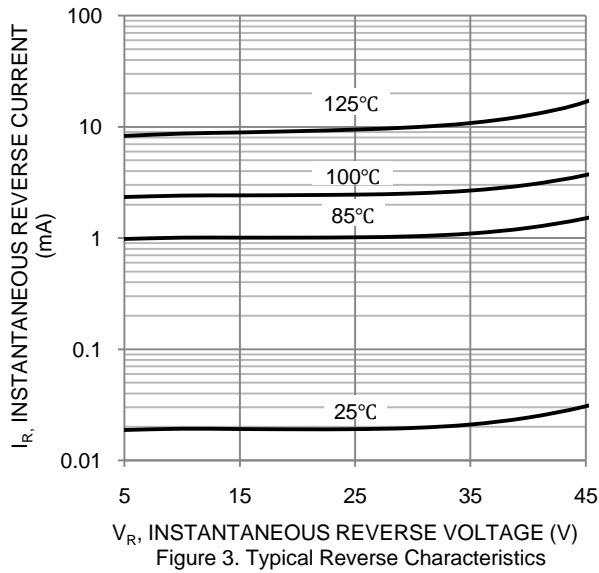
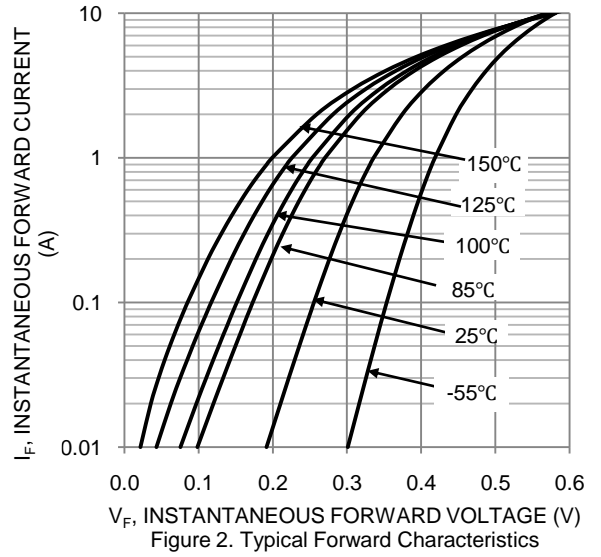
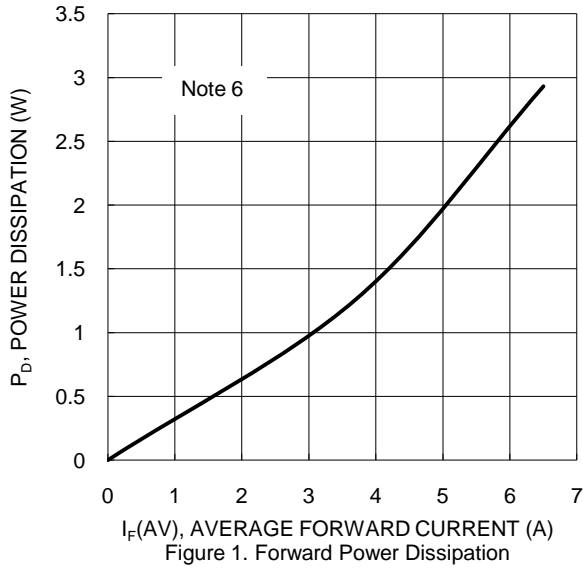
Thermal Characteristics

Characteristic	Symbol	Value	Unit
Thermal Resistance Junction to Case (Note 6)	R _{θJC}	30	°C/W
Thermal Resistance Junction to Ambient (Note 6)	R _{θJA}	50	
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V _F	-	-	0.45	V	I _F = 3.0A, T _J = +25°C
				0.39		I _F = 3.0A, T _J = +100°C
Leakage Current (Note 7)	I _R	-	-	300	μA	V _R = 40V, T _J = +25°C
				15		V _R = 40V, T _J = +100°C

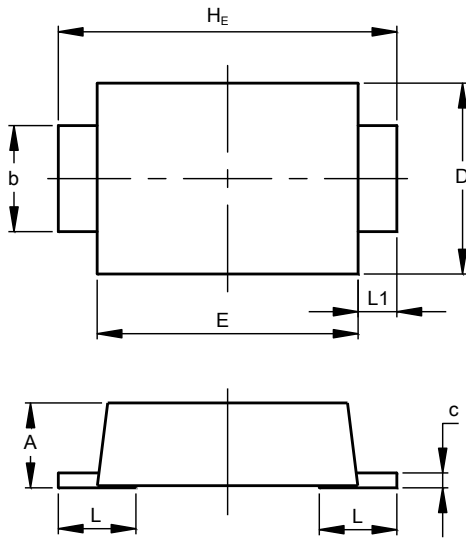
- Notes: 6. Device mounted on FR-4 substrate, 1**1", 2oz, single-sided, PC boards with 0.56**0.73" copper pad.
7. Short duration pulse test used to minimize self-heating effect.



Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SMA-FS



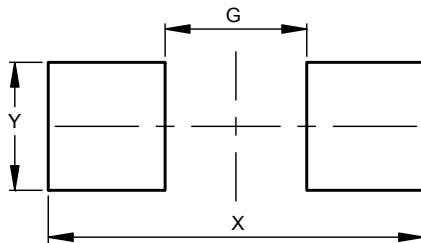
SMA-FS		
Dim	Min	Max
A	0.90	1.20
b	1.30	1.50
c	0.11	0.21
D	2.30	2.70
E	3.30	3.70
H_E	4.40	4.80
L	0.70	1.10
L1	0.45	0.65
All Dimensions in mm		

NEW PRODUCT

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SMA-FS



Dimensions	Value (in mm)
G	2.10
X	5.30
Y	1.77

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