NEW PRODUCT

SDT3A40SAFS

3A
TRENCH SCHOTTKY BARRIER RECTIFIER
SMA-FS

Product Summary (@ T_A = +25°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)**

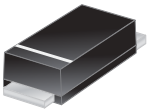
Applications

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

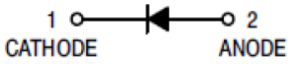
Mechanical Data

- 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 e3
- Polarity Indicator: Cathode Band
- Weight: 0.033 grams (Approximate)

SMA-FS



Top View



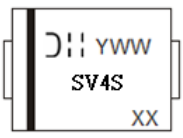
Schematic View

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
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.

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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 Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_{RM}	40	V
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) Thermal Resistance Junction to Ambient (Note 6)	$R_{\theta JC}$ $R_{\theta JA}$	30 50	°C/W
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 0.39	V	I_F = 3.0A, T_J = +25°C I_F = 3.0A, T_J = +100°C
Leakage Current (Note 7)	I_R	– –	– –	300 15	μA mA	V_R = 40V, T_J = +25°C 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.

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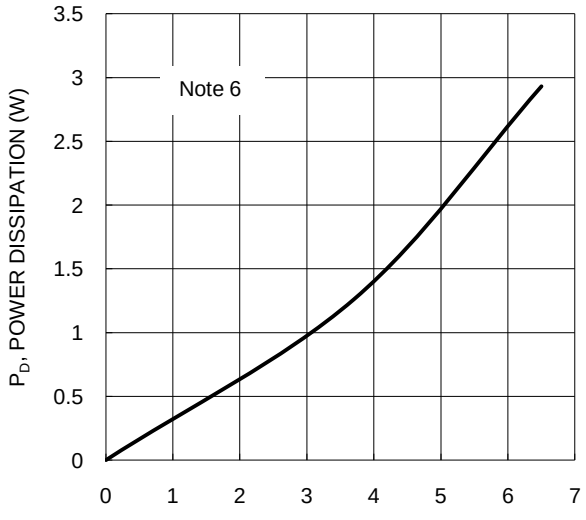

Figure 1. Forward Power Dissipation

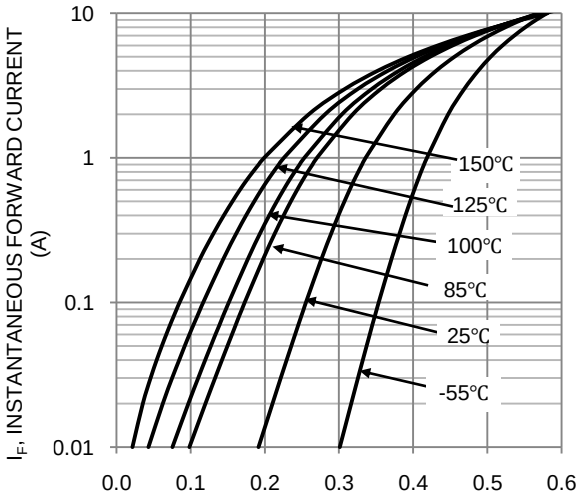

Figure 2. Typical Forward Characteristics

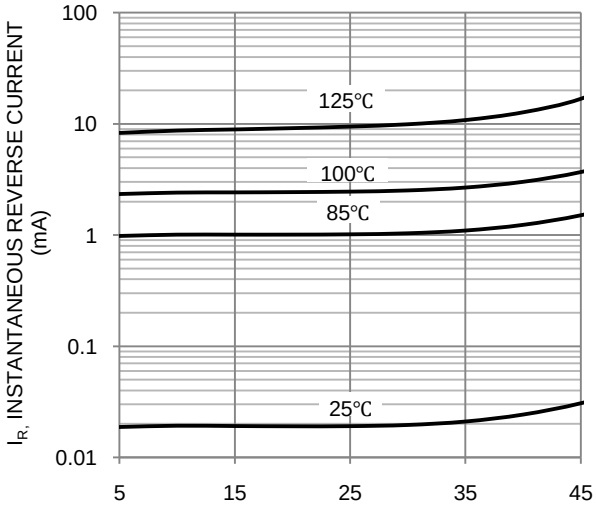

Figure 3. Typical Reverse Characteristics

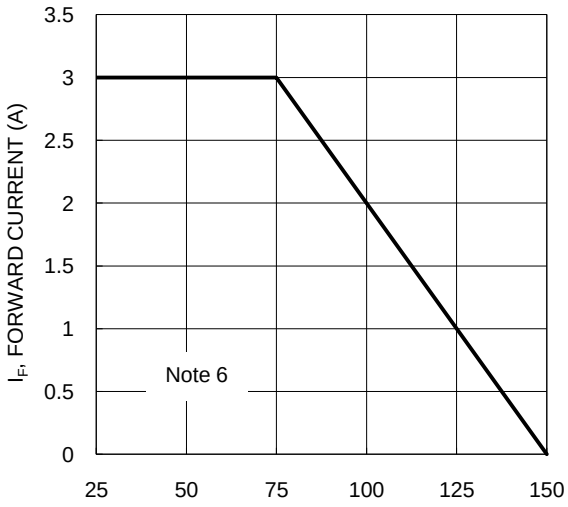

Figure 4. Forward Current Derating Curve

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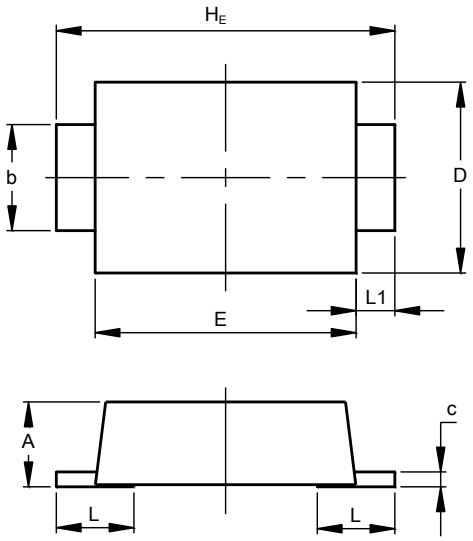
Package Outline Dimensions

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

SMA-FS

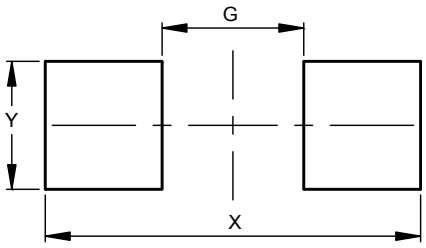


SMA-FS		
Dim	**Min**	**Max**
A	0.90	1.20
b	1.30	1.50
c	0.11	0.21
D	2.30	2.70
E	3.30	3.70
H_E	4.40	4.80
L	0.70	1.10
L1	0.45	0.65
All Dimensions in mm		

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

NEW PRODUCT

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