ES1A-ES1D

1.0 A Ultra Fast Recovery Rectifier

Features

- For Surface Mount Applications
- Glass Passivated Junction
- Low Profile Package
- Easy Pick and Place
- Built-in Strain Relief
- Superfast Recovery Times for High Efficiency
- This Device is Pb-Free and is RoHS Compliant

Applications

• This Product is General Usage and Suitable for Many Different Applications



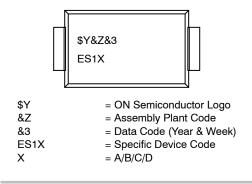
ON Semiconductor®

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SMA CASE 403AE (COLOR BAND DENOTES CATHODE)

MARKING DIAGRAM



ORDERING INFORMATION

See detailed ordering and shipping information on page 2 of this data sheet.

ES1A-ES1D

ABSOLUTE MAXIMUM RATINGS T_A = 25°C Unless Otherwise Noted

		Value				
Symbol	Symbol Parameter		1B	1C	1D	Units
V _{RRM}	Maximum Repetitive Reverse Voltage	50 100 150 200		V		
I _{F(AV)}	Average Rectified Forward Current, @ $T_A = 120^{\circ}C$	1.0		А		
I _{FSM}	Non-repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine-Wave	30		A		
T _{stg}	Storage Temperature Range	–50 to +150		°C		
T _{Jm}	Operating Junction Temperature	-50 to +150		°C		

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

THERMAL CHARACTERISTICS

Symbol	Symbol Parameter		Units	
PD	Power Dissipation	1.47	W	
$R_{ ext{ heta}JA}$	$R_{\theta JA}$ Thermal Resistance, Junction to Ambient*		°C/W	
$R_{ heta JL}$	Thermal Resistance, Junction to Lead*	35	°C/W	

*Device mounted on FR-4 PCB 0.013 mm.

ELECTRICAL CHARACTERISTICS $T_J = 25^{\circ}C$ Unless Otherwise Noted

		Device				
Symbol	Parameter	1A	1B	1C	1D	Units
V _F	Forward Voltage @ 1.0 A	0.92		V		
t _{rr}	Reverse Recovery Time I _F = 0.5 A, I _R = 1.0 A, I _{RR} = 0.25 A	15			ns	
I _R	Reverse Current @ rated V_R $T_A = 25^{\circ}C$ $T_A = 100^{\circ}C$	5.0 100		μΑ		
C _T	Total Capacitance V _R = 4.0 V, f = 1.0 MHz	7.0		pF		

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

PACKAGE MARKING AND ORDERING INFORMATION TBD

Device Marking	Device	Package	Quantity [†]		
ESD1	ESD1	SMA	7500 / Tape & Reel		

+For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

TYPICAL CHARACTERISTICS

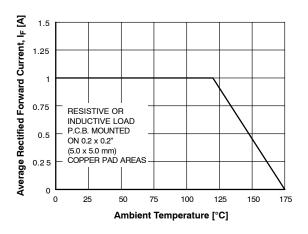


Figure 1. Forward Current Derating Curve

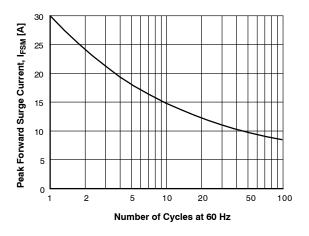


Figure 3. Non-Repetitive Surge Current

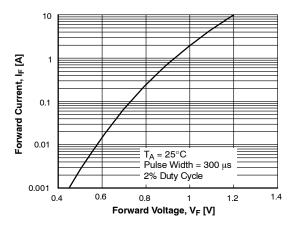


Figure 2. Forward Voltage Characteristics

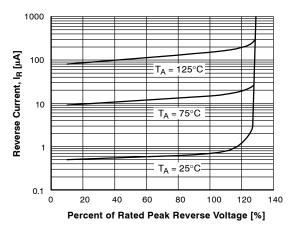


Figure 4. Reverse Current vs Reverse Voltage

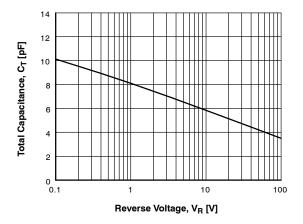
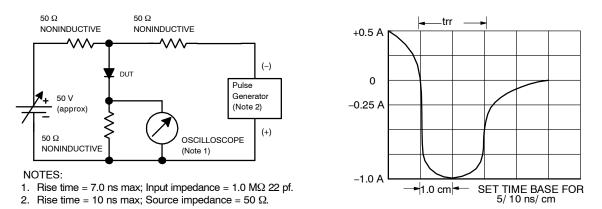


Figure 5. Total Capacitance

ES1A-ES1D

TYPICAL CHARACTERISTICS (continued)







SMA CASE 403AE ISSUE O DATE 31 AUG 2016 5.60 \oplus 0.13 (M) В С В Α B 4.80 2.65 2.95 1.65 1.75 ́Β` 2.50 1.20 4.30 4.75 ΈB A 4.00 LAND PATTERN RECOMMENDATION TOP VIEW 2.50 MAX 2.20 NOTES: 1.90 A. EXCEPT WHERE NOTED, CONFORMS TO JEDEC DO214 VARIATION AC. 0.30 ∕B` DOES NOT COMPLY JEDEC STANDARD 0.203 Β 0.05 VALUE. 0.050 С C. ALL DIMENSIONS ARE IN MILLIMETERS. 2.05 D. DIMENSIONS ARE EXCLUSIVE OF **⊕**|0.13 (M) С В Α 1.95 BURRS, MOLD FLASH AND TIE BAR PROTRUSIONS. SIDE VIEW Ε. DIMENSIONS AND TOLERANCE AS PER ASME Y14.5-2009. E. LAND PATTERN STD. DIOM5025X231M **8**° 0 R0.15 4X GAGE PLANE 0.45 0.41 0.15 1.52 **8** ° 0.75 **0** ° **DETAIL A** SCALE 20:1 Electronic versions are uncontrolled except when accessed directly from the Document Repository. DOCUMENT NUMBER: 98AON13440G Printed versions are uncontrolled except when stamped "CONTROLLED COPY" in red. PAGE 1 OF 1 **DESCRIPTION:** SMA

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