Fast Rectifiers

ES1F-ES1J

Features

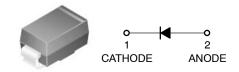
- For Surface Mount Applications
- Glass Passivated Junction
- Low Profile Package
- Easy Pick and Place
- Built-in Strain Relief
- Superfast Recovery Times for High Efficiency

		Value				
Symbol	Parameter	ES1F	ES1G	ES1H	ES1J	Unit
V _{RRM}	Maximum Repetitive Reverse Voltage	300	400	500	600	V
I _{F(AV)}	Average Rectified Forward Current	1.0				A
I _{FSM}	Non-repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine-Wave (JEDEC method)	30				A
TJ	Operating Junction Temperature Range	–55 to 150				°C
T _{STG}	Storage Temperature Range	–55 to 150				°C
PD	Power Dissipation	1.47				W

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SMA (DO-214AC) Color Band Denotes Cathode CASE 403AE

ORDERING INFORMATION

Device	Package	Shipping [†]		
ES1F	SMA (Pb–Free)	7500 / Tape & Reel		
ES1G	SMA (Pb–Free)	7500 / Tape & Reel		
ES1H	SMA (Pb–Free)	7500 / Tape & Reel		
ES1J	SMA (Pb–Free)	7500 / Tape & Reel		

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.

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

THERMAL CHARACTERISTICS

Symbol	Characteristics		Unit
R_{\thetaJA}	Thermal Resistance, Junction-to-Ambient (Note 1)	85	°C/W
$R_{\theta JC}$	Thermal Resistance, Junction-to-Case (Note 1)	61	°C/W
$R_{ extsf{ heta}JL}$	Thermal Resistance, Junction-to-Lead (Note 1)	35	°C/W

1. P. C. B mounted on $0.2'' \times 0.2''$ (5 × 5 mm) copper Pad Area.

ELECTRICAL CHARACTERISTICS (T_C = 25°C, unless otherwise noted)

		Value				
Symbol	Characteristics	ES1F	ES1G	ES1H	ES1J	Unit
V _F	Maximum Forward Voltage @ I _F = 1.0 A	1.3		1.7		V
T _{rr}	Maximum Reverse Recovery Time, I _F = 0.5 A, I _R = 1.0 A, I _{RR} = 0.25 A	35			ns	
Ι _R	Maximum Reverse Current @ rated V_R $T_A = 25^{\circ}C$ $T_A = 100^{\circ}C$	5.0 100			μΑ	
Cj	Typical Junction Capacitance, $V_R = 4.0 V$, f = 1.0 MHz	10.0		8	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.

ES1F-ES1J

TYPICAL PERFORMANCE CHARACTERISTICS

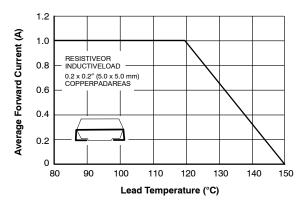


Figure 1. Maximum Forward Current Derating Curve

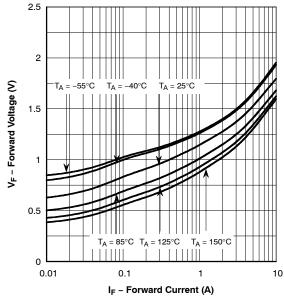


Figure 3. Forward Current vs. Forward Voltage

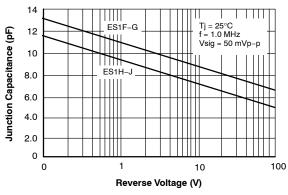


Figure 5. Typical Junction Capacitance

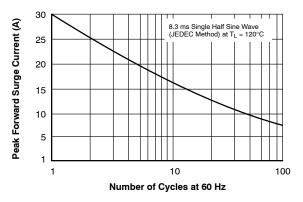


Figure 2. Maximum Non-repetitive Peak Forward Surge Current

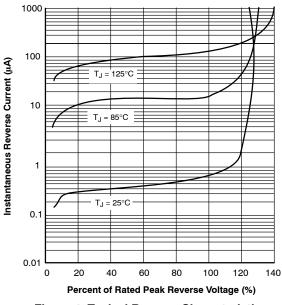


Figure 4. Typical Reverse Characteristics



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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