

# ES1A-AT THRU ES1J-AT

## Surface Mount Superfast Recovery Rectifier

Forward Current: 1A

Reverse Voltage: 50V to 600V

### FEATURES

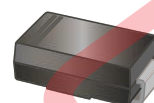
- ◆ For surface mount applications
- ◆ Glass passivated chip junction
- ◆ Low profile package
- ◆ Superfast reverse recovery time
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives

### PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode

### MECHANICAL DATA

- ◆ Case: SMA molded plastic body
- ◆ Terminals: Solderable per MIL-STD- 750, Method 2026
- ◆ Weight: Approximated 0.055 grams



Top View  
Simplified outline SMA and symbol

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derating by 20 %.

PARAMETER	SYMBOL	ES1A -AT	ES1B -AT	ES1C -AT	ES1D -AT	ES1E -AT	ES1G -AT	ES1J -AT	UNIT
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	600	V
Maximum RMS Voltage	$V_{RMS}$	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	150	200	300	400	600	V
Maximum Average Forward Rectified Current at $T_C=100^\circ\text{C}$	$I_{F(AV)}$	1							A
Peak Forward Surge Current (Note1)	$I_{FSM}$	30							A
Maximum Forward Voltage at 1.0 A	$V_F$	1				1.25		1.70	V
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_A=25^\circ\text{C}$ $T_A=125^\circ\text{C}$	$I_R$	5				100		$\mu\text{A}$	
Typical Junction Capacitance at $V_R=4\text{V}, f=1\text{MHz}$	$C_J$	15				$\text{pF}$			
Maximum Reverse Recovery Time (Note2)	$T_{rr}$	35				$\text{nS}$			
Typical Thermal Resistance (Note3)	$R_{\theta JA}$	110				$^\circ\text{C/W}$			
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150							$^\circ\text{C}$

Notes: 1. Measured at 8.3 ms single half sine wave superimposed on rated load (JEDEC Method).

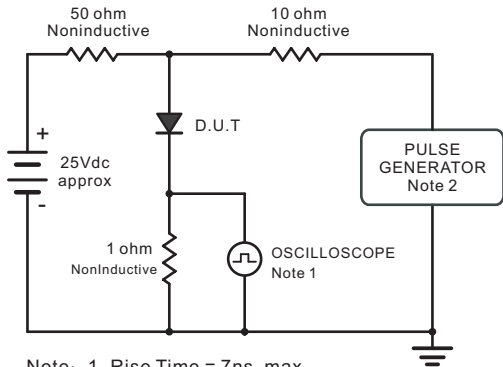
2. Measured at with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{rr}=0.25\text{A}$ .

3. P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

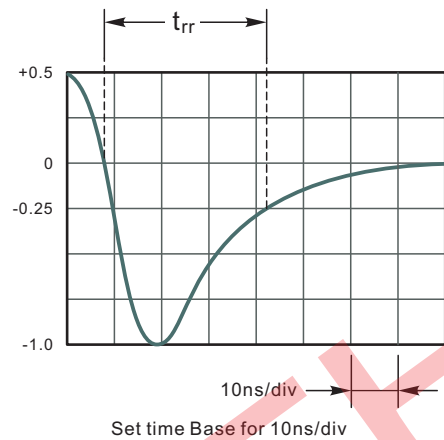
# ES1A-AT THRU ES1J-AT

## RATINGS AND CHARACTERISTIC CURVES

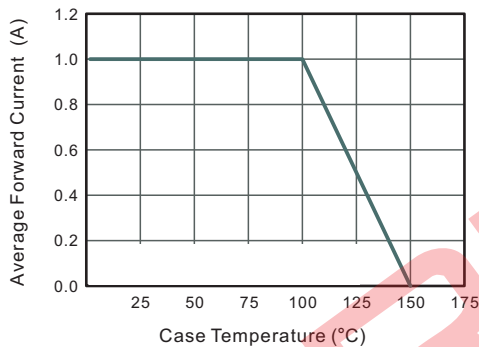
**Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram**



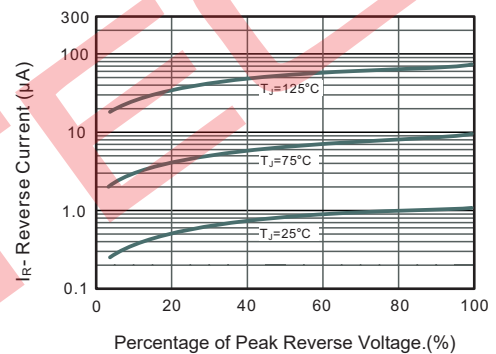
Note: 1. Rise Time = 7ns, max.  
Input Impedance = 1megohm, 22pF.  
2. Rise Time = 10ns, max.  
Source Impedance = 50 ohms.



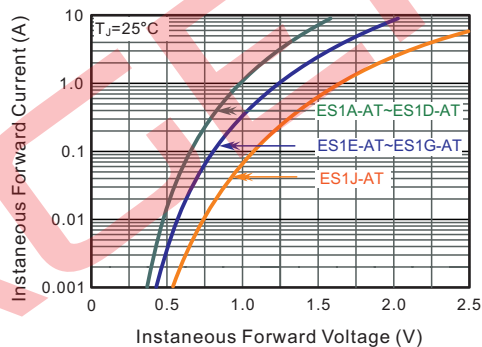
**Fig.2 Maximum Average Forward Current Rating**



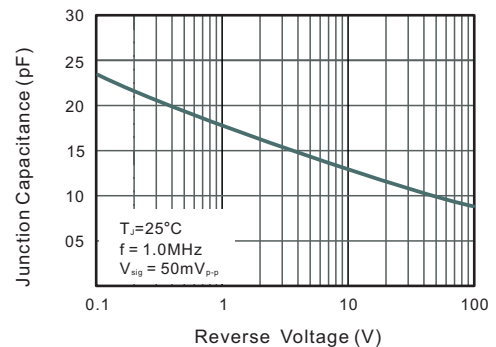
**Fig.3 Typical Reverse Characteristics**



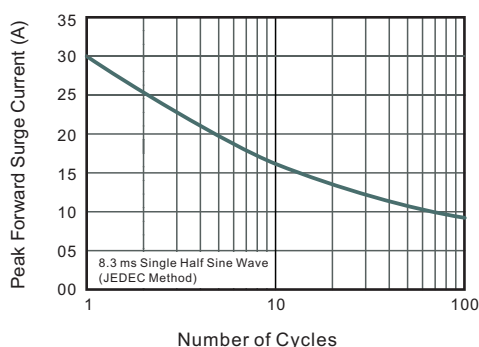
**Fig.4 Typical Forward Characteristics**



**Fig.5 Typical Junction Capacitance**



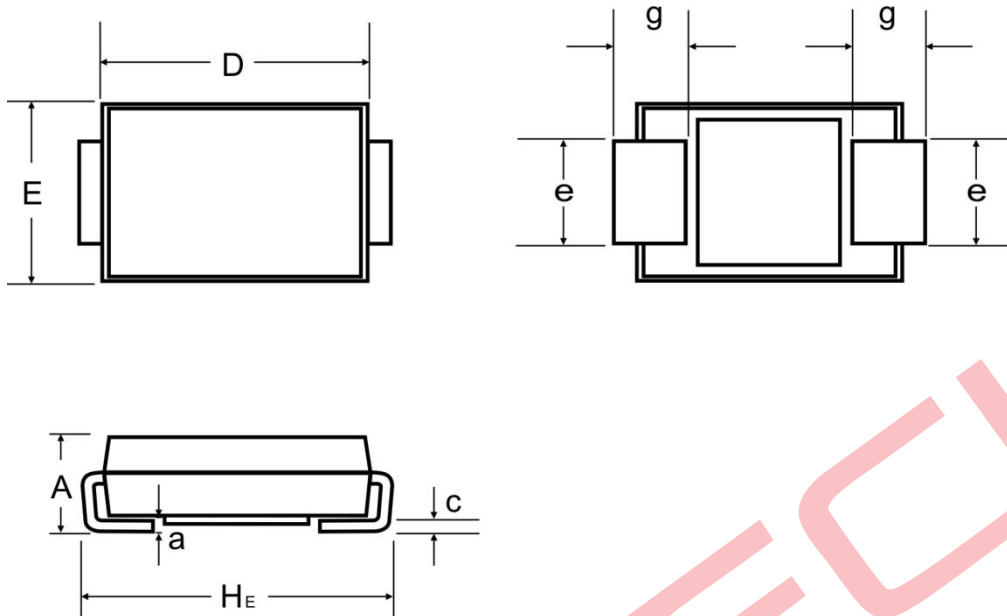
**Fig.6 Maximum Non-Repetitive Peak Forward Surge Current**



# ES1A-AT THRU ES1J-AT

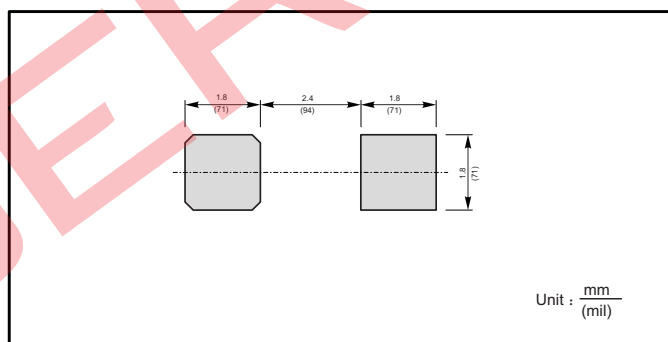
## PACKAGE OUTLINE

SMA



UNIT		A	D	E	H <sub>E</sub>	C	e	g	a
mm	max	2.2	4.5	2.7	5.2	0.31	1.6	1.5	0.3
	min	1.9	4.0	2.3	4.7	0.15	1.3	0.9	

The recommended mounting pad size



### ORDER INFORMATION

Device	Package	Shipping
ES1A-AT THRU ES1J-AT	SMA	5000PCS/Reel&Tape(13inch)

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Rectifiers](#) category:*

*Click to view products by [Agertech](#) manufacturer:*

Other Similar products are found below :

[70HFR40](#) [FR105 R0](#) [RL252-TP](#) [150KR30A](#) [1N5397](#) [1N4002G](#) [1N4005-TR](#) [UFS120Je3/TR13](#) [JANS1N6640US](#) [481235F](#)  
[RRE02VS6SGTR](#) [067907F](#) [MS306](#) [70HF40](#) [T110HF60](#) [T85HFL60S02](#) [US2JFL-TP](#) [A1N5404G-G](#) [CRS12\(T5L,TEMQ\)](#) [ACGRB207-HF](#)  
[CLH07\(TE16L,Q\)](#) [CLH03\(TE16L,Q\)](#) [ACGRC307-HF](#) [ACEFC304-HF](#) [NTE6356](#) [NTE6359](#) [85HFR60](#) [40HFR60](#) [70HF120](#) [85HFR80](#)  
[D126A45C](#) [SCF7500](#) [D251N08B](#) [SCHJ22.5K](#) [SM100](#) [SCPA2](#) [SDHD5K](#) [ACGRA4001-HF](#) [ACURA107-HF](#) [D1821SH45T PR](#) [D1251S45T](#)  
[NTE6358](#) [NTE5850](#) [NTE5819](#) [NTE5837](#) [NTE5892](#) [NTE5900](#) [NTE5911](#) [NTE5915](#) [NTE5921](#)