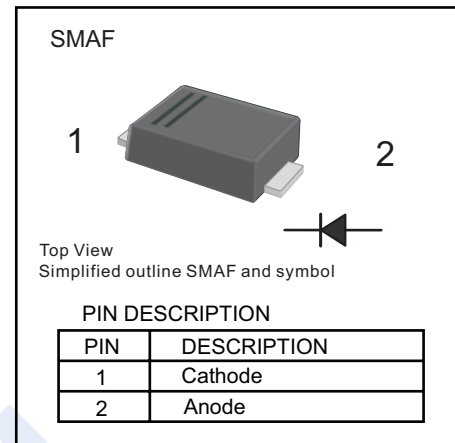


## Superfast Recovery Rectifier

## ES1AF ~ ES1JF

## ■ Features

- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$  unless otherwise specified

Parameter	Symbol	ES 1AF	ES 1BF	ES 1CF	ES 1DF	ES 1EF	ES 1GF	ES 1JF	Unit	
Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	600	V	
Surge Peak Reverse Voltage	$V_{RSM}$	35	70	105	140	210	280	420		
Maximum DC Blocking Voltage	$V_{DC}$	50	100	150	200	300	400	600		
Instantaneous Forward Voltage at 1A	$V_F$	1			1.25		1.68		A	
Averaged Forward Current $T_C=125^\circ\text{C}$	$I_{F(AV)}$	1								
Peak forward surge current	$I_{FSM}$	30								
Maximum DC Reverse Current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=125^\circ\text{C}$	$I_R$	5				100				$\mu\text{A}$
Typical Junction Capacitance *1	$C_j$	15								pF
Maximum Reverse Recovery Time *2	$t_{rr}$	35								ns
Typical thermal resistance *3	$R_{thJA}$	80								$^\circ\text{C}/\text{W}$
Junction Temperature	$T_j$	150								$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to 150								

\* 1 Measured at 1MHz and applied reverse voltage of 4V D.C.

\* 2 Measured 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" × 2" (35×5 cm) copper pad areas.

## ■ Marking

NO.	ES1AF	ES1BF	ES1CF	ES1DF	ES1EF	ES1GF	ES1JF
Marking	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J

# Superfast Recovery Rectifier

## ES1AF ~ ES1JF

■ Typical Characteristics

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram

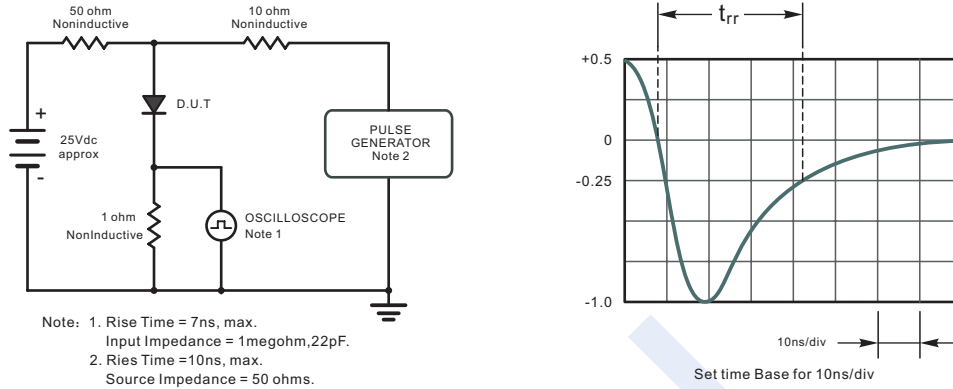


Fig.2 Maximum Average Forward Current Rating

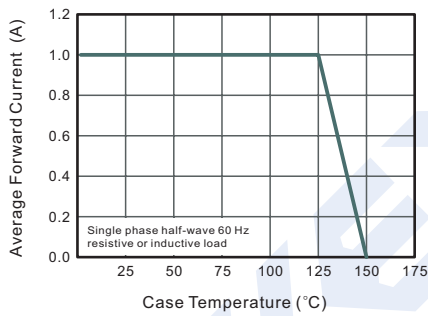


Fig.3 Typical Reverse Characteristics

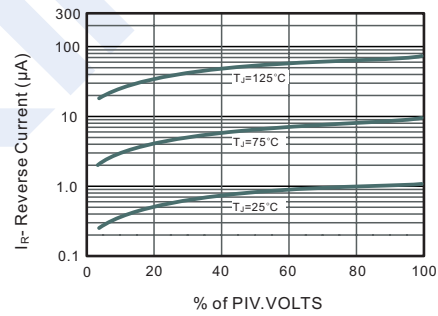


Fig.4 Typical Forward Characteristics

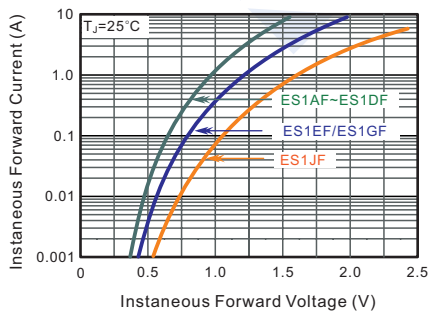


Fig.5 Typical Junction Capacitance

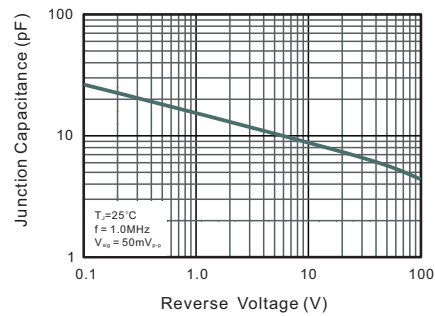
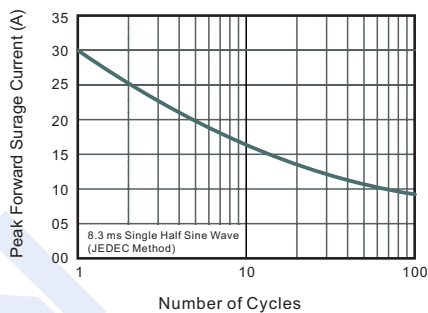


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



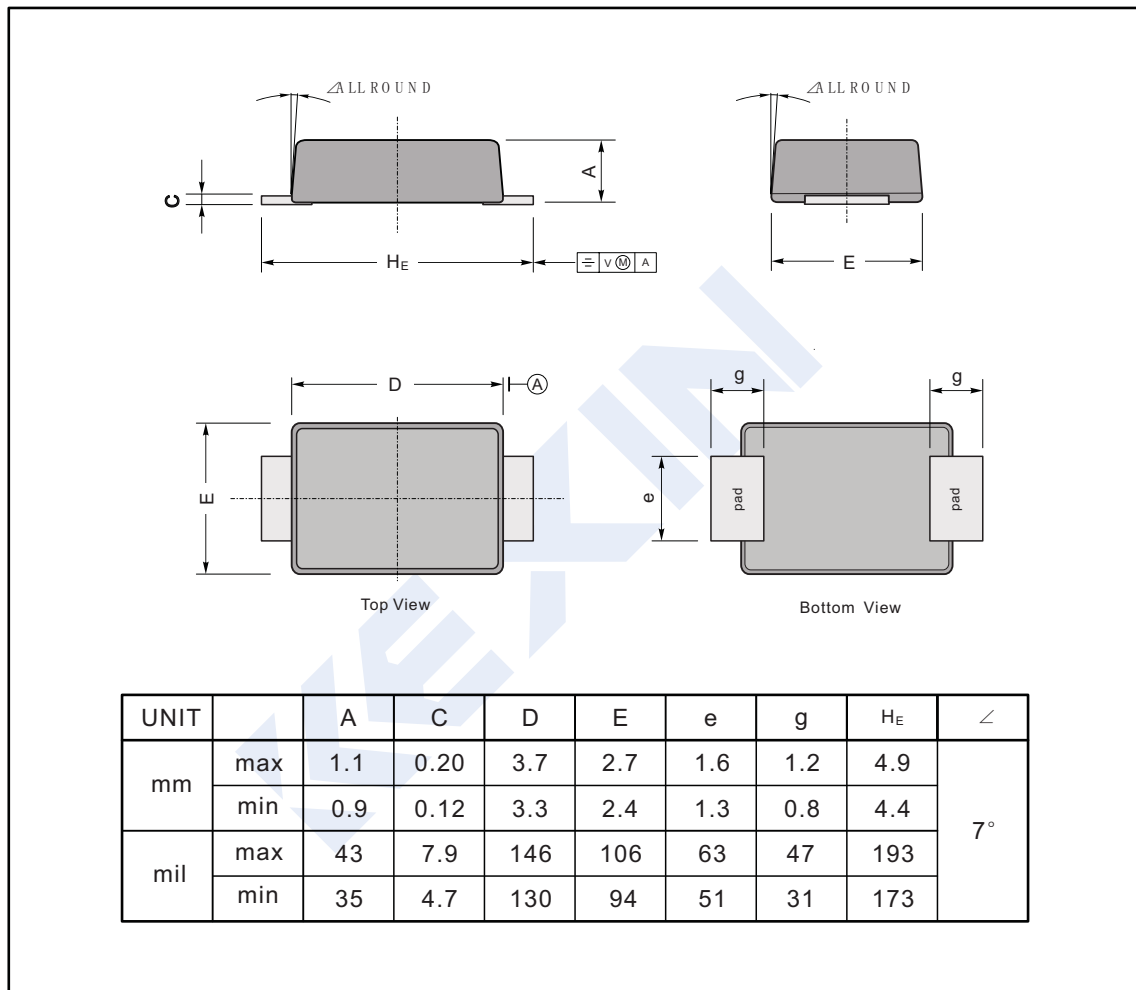
### Superfast Recovery Rectifier

### ES1AF ~ ES1JF

■ Package Outline Dimensions

Plastic surface mounted package; 2 leads

SMAF



■ The Recommended Mounting Pad Size

