ES3AF-TN~ES3JF-TN
SUPERFAST RECOVERY RECTIFIERS

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

Top View
Marking Code:
ES3AF~ES3JF: ES3A~ES3J
Simplified outline SMAF and symbol

MECHANICAL DATA

- **Case: SMAF molded plastic body**
- **Terminals: Solderable per MIL-STD- 750, Method 2026**
- **Weight: Approximated 0.027 grams**

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.

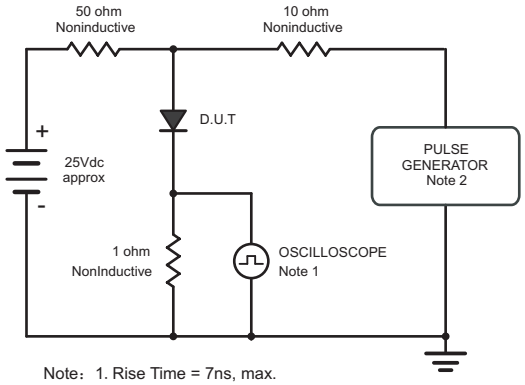
Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derating by 20 %.

PARAMETER	SYMBOL	ES3AF -TN	ES3BF -TN	ES3CF -TN	ES3DF -TN	ES3EF -TN	ES3GF -TN	ES3JF -TN	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=125℃	$I_{F(AV)}$	3.0							A
Peak Forward Surge Current (Note1)	I_{FSM}	100							A
Maximum Forward Voltage at 3.0 A	V_F	1				1.25		1.68	V
Maximum DC Reverse Current at Rated DC Blocking Voltage T_A=25℃ T_A=125℃	I_R	5 100							uA
Typical Junction Capacitance at V_R=4V,f=1MHz	C_J	40							pF
Maximum Reverse Recovery Time (Note2)	T_{rr}	40							nS
Typical Thermal Resistance (Note3)	$R_{\theta JA}$ $R_{\theta JC}$	50 16							℃/W
Operating and Storage Temperature Range	T_J,T_{STG}	-55 to +150							℃

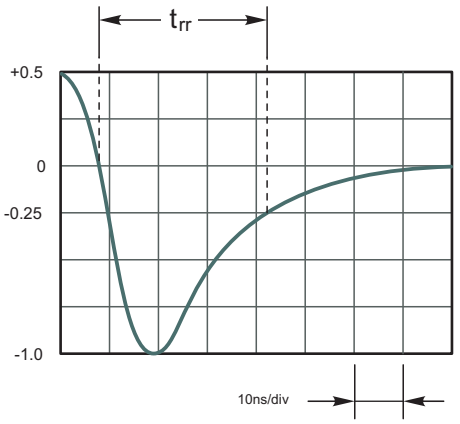
Notes: 1. Measured at 8.3 ms single half sine wave superimposed on rated load (JEDEC Method).
2. Measured at with I_F=0.5A, I_R=1A, I_{rr}=0.25A.
3. P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

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. Ries Time =10ns, max.
Source Impedance = 50 ohms.



Set time Base for 10ns/div

Fig.2 Maximum Average Forward Current Rating

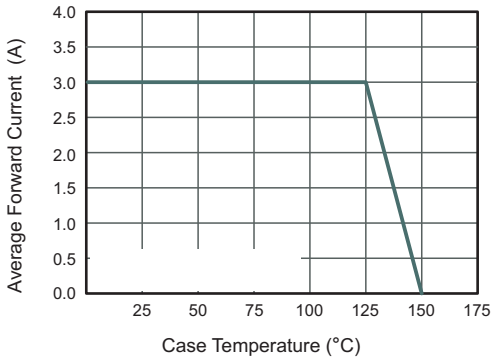


Fig.3 Typical Reverse Characteristics

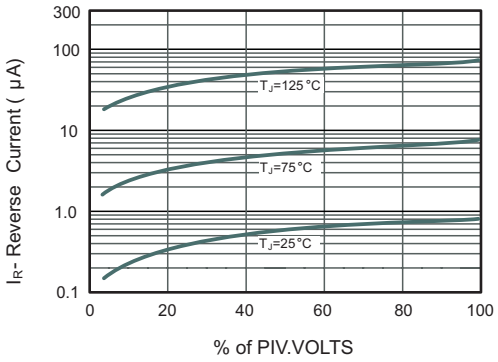


Fig.4 Typical Forward Characteristics

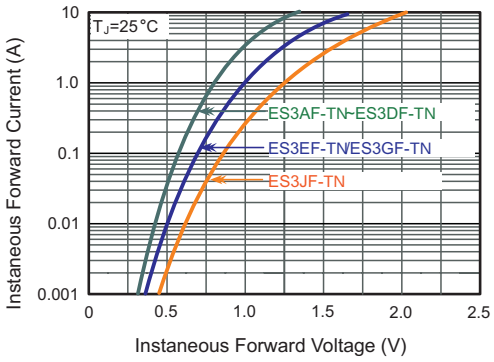


Fig.5 Typical Junction Capacitance

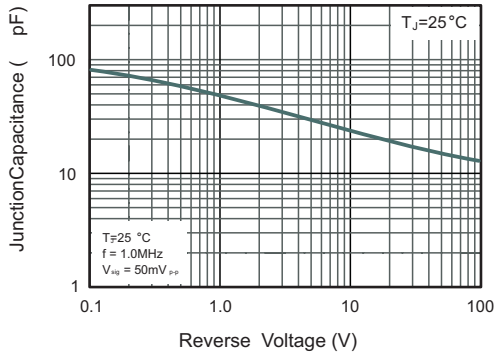
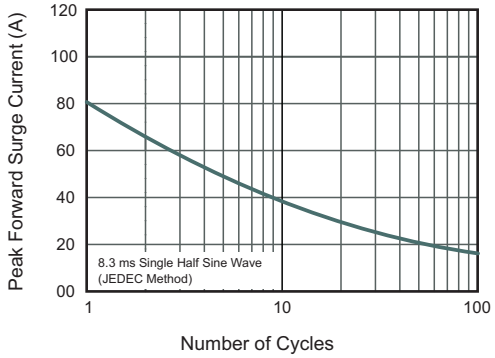
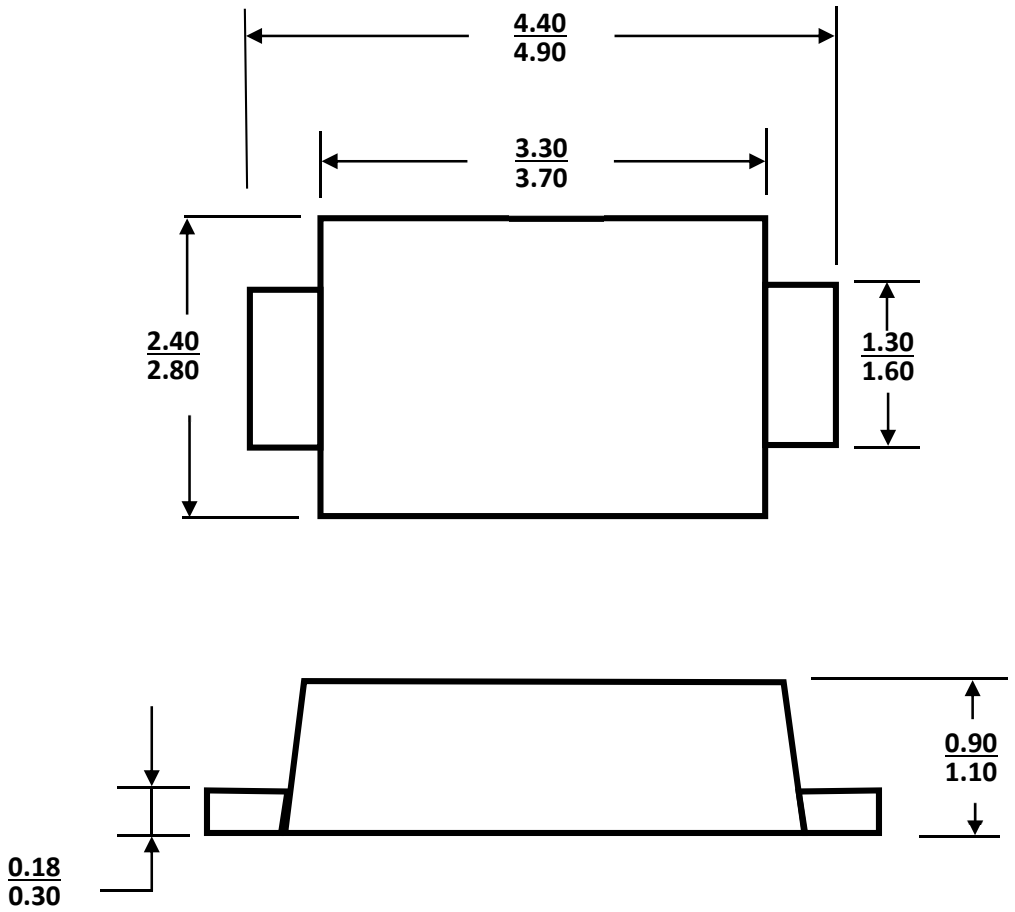


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



PACKAGE OUTLINE

SMAF



Dimensions in millimeters

ORDERING INFORMATION

Device	Package	Shipping
ES3AF-TNthru ES3JF-TN	SMAF	3,000/Tape & Reel (7 inches)
		10,000/ Tape & Reel (13 inches)