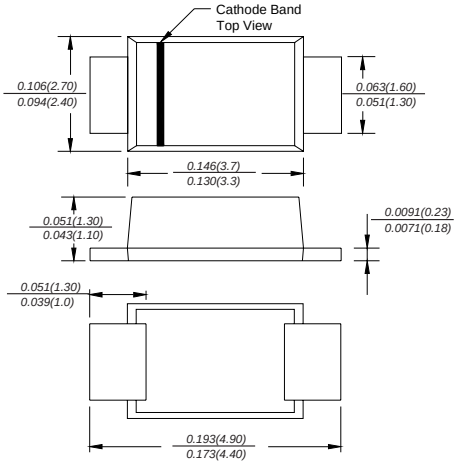
ES3AF THRU ES3JF

SURFACE MOUNT SUPER FAST RECTIFIER

Reverse Voltage - 50 to 1000 Volts Forward Current - 3.0 Amperes

SMAF



Dimensions in inches and (millimeters)

FEATURES

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Super fast switching for high efficiency
- Low reverse leakage
- Built-in strain relief,ideal for automated placement
- High forward surge current capability
- High temperature soldering guaranteed: 260℃/10 seconds at terminals
- Glass passivated chip junction

MECHANICAL DATA

Case: JEDEC SMAF molded plastic body over passivated chip
Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight:0.0018 ounce, 0.064 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

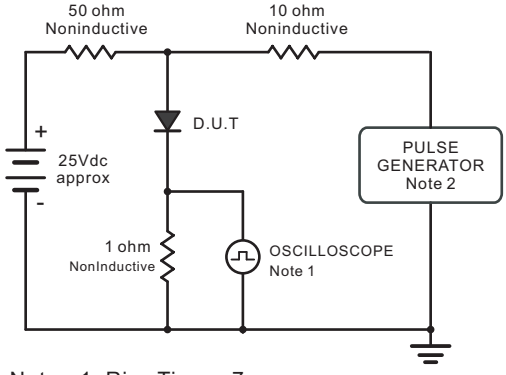
Ratings at 25℃ ambient temperature unless otherwise specified.
Single phase half-wave 60Hz,resistive or inductive load,for capacitive load current derate by 20%.

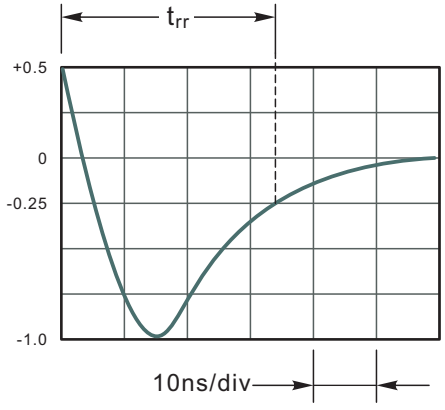
MDD Catalog Number	*SYMBOLS*	ES3AF	ES3BF	ES3CF	ES3DF	ES3EF	ES3GF	ES3JF	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	600	VOLTS
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	420	VOLTS
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	600	VOLTS
Maximum average forward rectified current at T_L=55℃	$I_{(AV)}$	3.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	50.0							Amps
Maximum instantaneous forward voltage at 3.0A	V_F	0.95				1.25		1.7	Volts
Maximum DC reverse current T_A=25℃ at rated DC blocking voltage T_A=125℃	I_R	5.0 200.0							μA
Maximum reverse recovery time (NOTE 1)	t_{rr}	35							ns
Typical junction capacitance (NOTE 2)	C_J	60.0							pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	40.0							°C/W
Operating junction and storage temperature range	T_J,T_{STG}	-50 to +150							°C

Note:1.Reverse recovery condition I_F=0.5A,I_R=1.0A,Irr=0.25A
2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.
3.P.C.B. mounted with 0.2x0.2"(5.0x5.0mm) copper pad areas

RATINGS AND CHARACTERISTIC CURVES ES3AF THRU ES3JF

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram





Set time Base for 10ns/div

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

Fig.2 Maximum Average Forward Current Rating

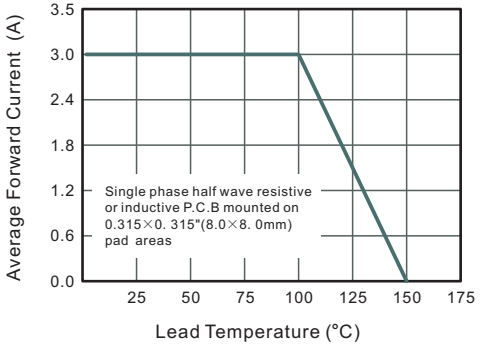


Fig.3 Typical Reverse Characteristics

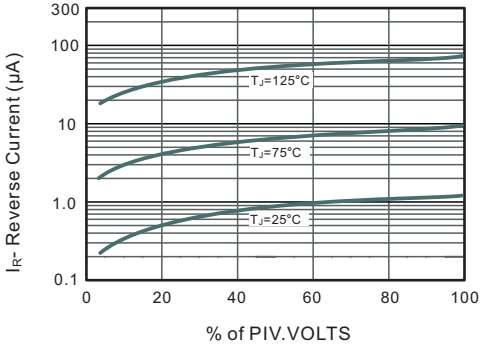


Fig.4 Typical Forward Characteristics

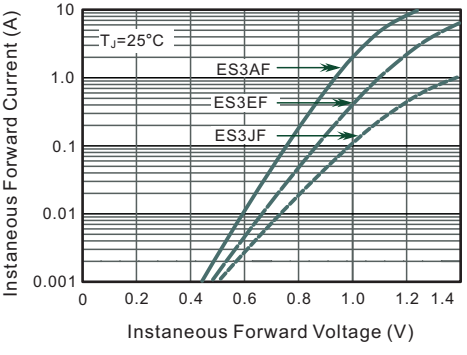
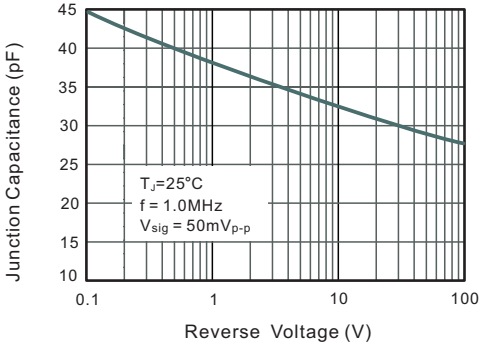


Fig.5 Typical Junction Capacitance



The cruve graph is for reference only, can't be the basis for judgment(曲线图仅供参考)!