



Features

- Average Forward Current: $I_{F(AV)}=1A$
- Polarity: Color band denotes cathode



SMAF

Package Marking and Ordering Information

Product ID	Pack	Brand	Qty(PCS)
ES1AF-ES1JF	SMAF	HXY MOSFET	3000



Maximum Ratings (Ta=25°C unless otherwise noted)

Item	Symbol	Unit	Test Conditions	ES1							
				AF	BF	CF	DF	EF	GF	HF	JF
Repetitive Peak Reverse Voltage	V_{RRM}	V		50	100	150	200	300	400	500	600
Maximum RMS Voltage	V_{RMS}	V		35	70	105	140	210	280	350	420
Average Forward Current	$I_{F(AV)}$	A	60Hz Half-sine wave, Resistance load, $T_L=120^\circ C$	1.0							
Surge(Non-repetitive)Forward Current	I_{FSM}	A	60Hz Half-sine wave, 1 cycle, $T_a=25^\circ C$	30							
Operation Junction and Storage Temperature Range	T_J, T_{STG}	°C		-55 ~ +150							

Electrcal Characteristics (Ta=25°C unless otherwise specified)

Item	Symbol	Unit	Test Condition	ES1							
				AF	BF	CF	DF	EF	GF	HF	JF
Peak Forward Voltage	V_F	V	$I_F=1.0A$	0.95			1.25		1.70		
Maximum reverse recovery time	t_{rr}	ns	$I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$	35							
Peak Reverse Current	I_{RRM1}	μA	$V_{RM}=V_{RRM}$	$T_a=25^\circ C$				5			
	I_{RRM2}			$T_a=100^\circ C$				100			
Thermal Resistance(Typical)	$R_{\theta J-A}$	°C/W	Between junction and ambient	85							
	$R_{\theta J-L}$		Between junction and terminal	35							

Notes:

Thermal resistance from junction to ambient and from junction to lead mojnted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas



Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

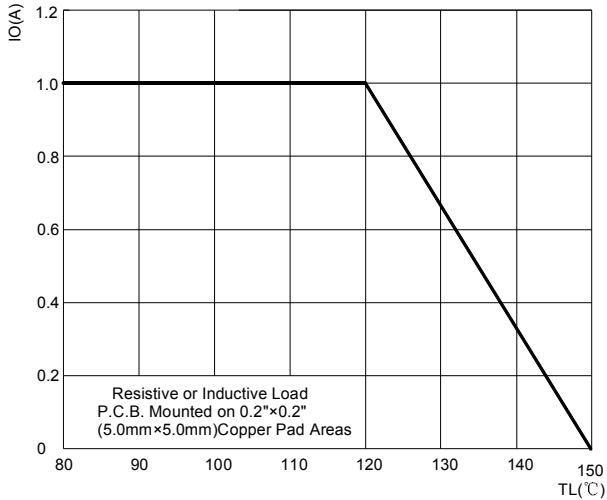


FIG.2: MAXIMUM NON-REPETITIVE FORWARD URGE CURRENT

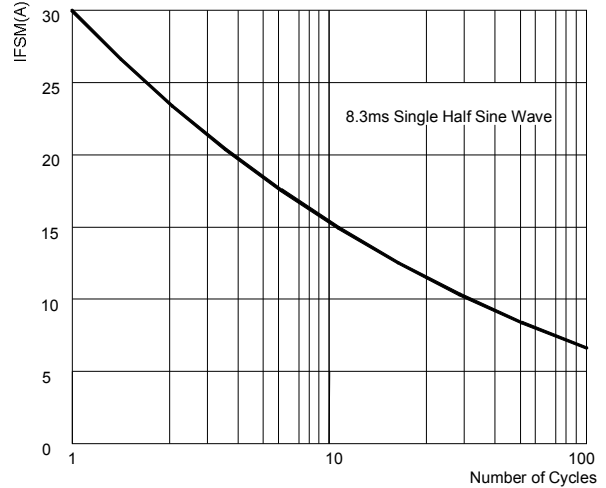


FIG.3: TYPICAL FORWARD CHARACTERISTICS

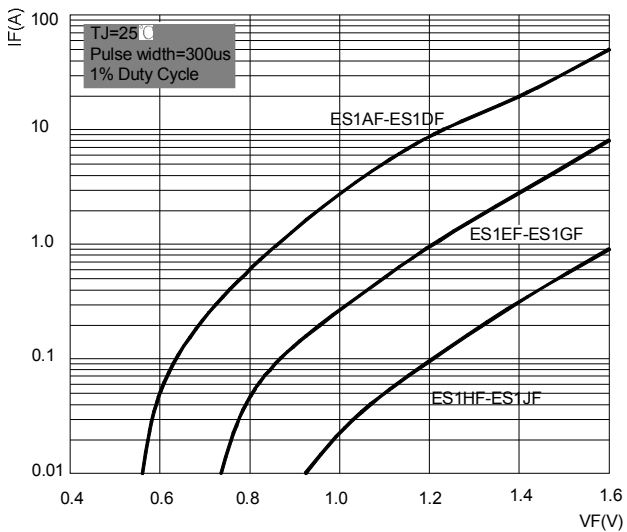


FIG.4: TYPICAL REVERSE CHARACTERISTICS

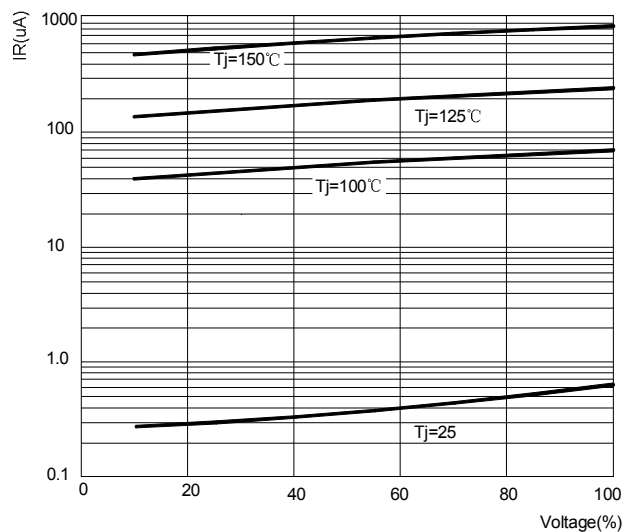
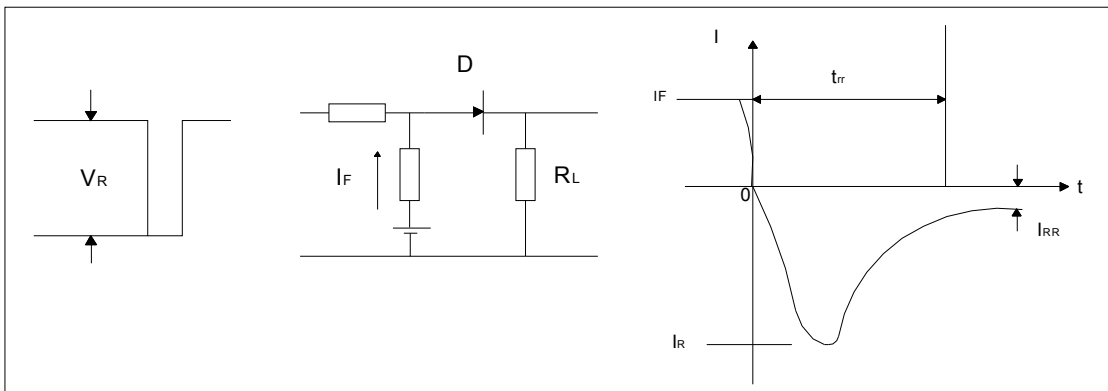
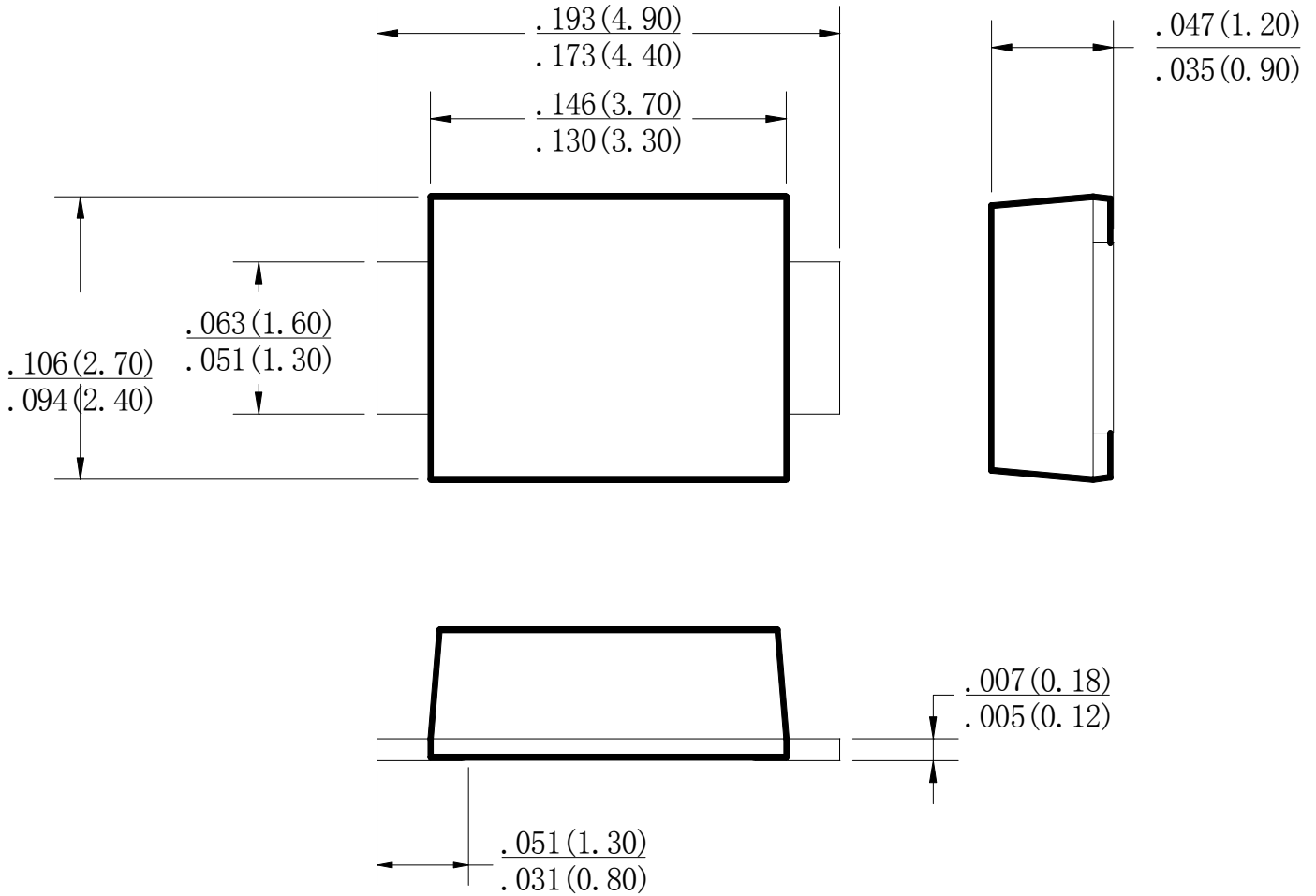


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time





SMAF Package Outline Dimensions



Dimensions in inches and (millimeters)



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