



Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Super Fast reverse recovery time
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

Typical Applications

For use in high frequency rectification of power supplies, inverters, converters, and freewheeling diodes for consumer and telecommunication.

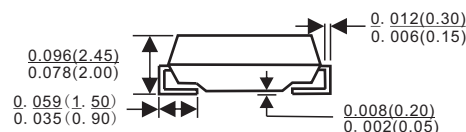
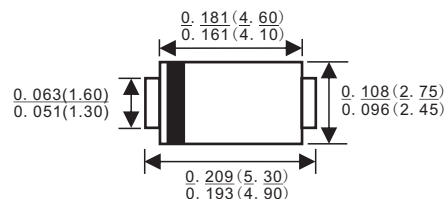
Mechanical Data

- **Package:** DO-214AC (SMA)
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

VOLTAGE RANGE: 50 --- 800

V CURRENT: 1.0 A

SMA/DO-214AC



Dimensions in inches and (millimeters)

■Maximum Ratings (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	ES1A	ES1B	ES1C	ES1D	ES1F	ES1G	ES1H	ES1J	ES1K
Device marking code			ES1A	ES1B	ES1C	ES1D	ES1F	ES1G	ES1H	ES1J	ES1K
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	V	50	100	150	200	300	400	500	600	800
Maximum RMS Voltage	V _{RMS}	V	35	70	105	140	210	280	350	420	560
Maximum DC blocking Voltage	V _{DC}	V	50	100	150	200	300	400	500	600	800
Average rectified output current @ 60Hz sine wave, Resistance load, TL (FIG.1)	I _O	A	1.0								
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, T _j =25°C	I _{FSM}	A	30								
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, T _j =25°C			60								
Current squared time @1ms≤t≤8.3ms T _j =25°C	I ² t	A ² s	3.735								
Storage temperature	T _{stg}	°C	-55 ~ +150								
Junction temperature	T _j	°C	-55 ~ +150								

■Electrical Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	ES1A	ES1B	ES1C	ES1D	ES1F	ES1G	ES1H	ES1J	ES1K
Maximum instantaneous forward voltage	V _F	V	I _{FM} =1.0A	0.95				1.3		1.7		1.85
Maximum reverse recovery time	t _r	ns	I _F =0.5A, I _R =1.0A, I _r =0.25A	35								
Maximum DC reverse current at rated DC blocking voltage	I _R	μA	T _j =25°C	5								
			T _j =125°C	100								
Typical junction capacitance	C _j	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	18				12		8		10



■ Thermal Characteristics ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	ES1A	ES1B	ES1C	ES1D	ES1F	ES1G	ES1H	ES1J	ES1K
Typical Thermal Resistance	$R_{\theta J-A}^{(1)}$	$^{\circ}\text{C/W}$	65								
	$R_{\theta J-L}^{(1)}$		25								
	$R_{\theta J-C}^{(1)}$		20								

Note

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

■ Characteristics (Typical)

FIG.1: I_o - T_L Curve

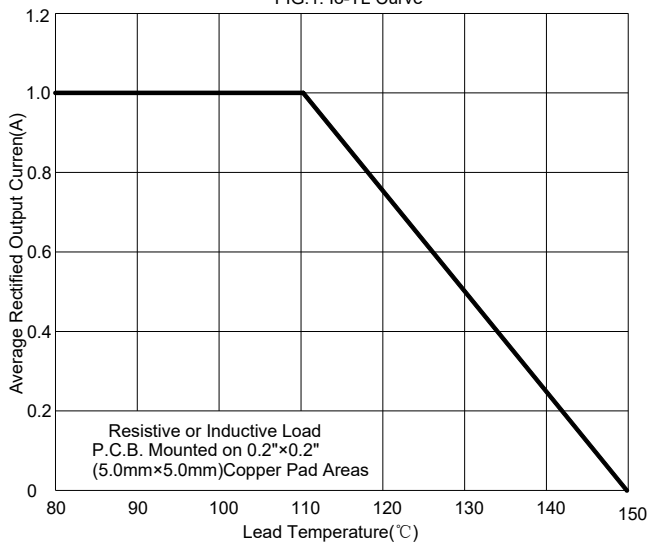


FIG2: Surge Forward Current Capability

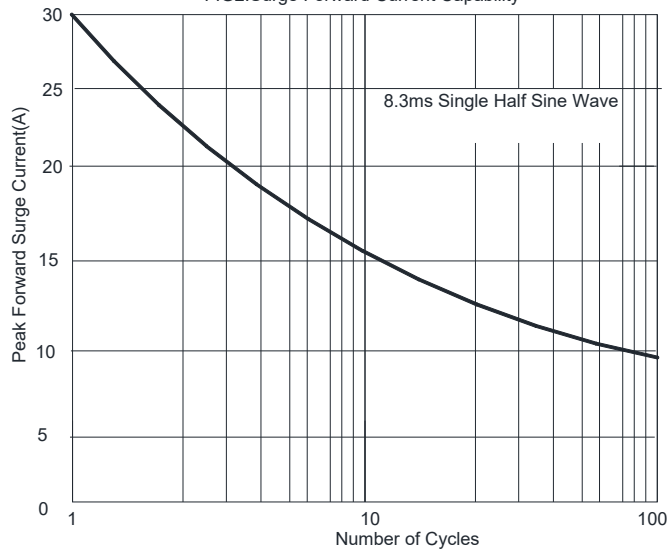


FIG3: Typical Forward Voltage

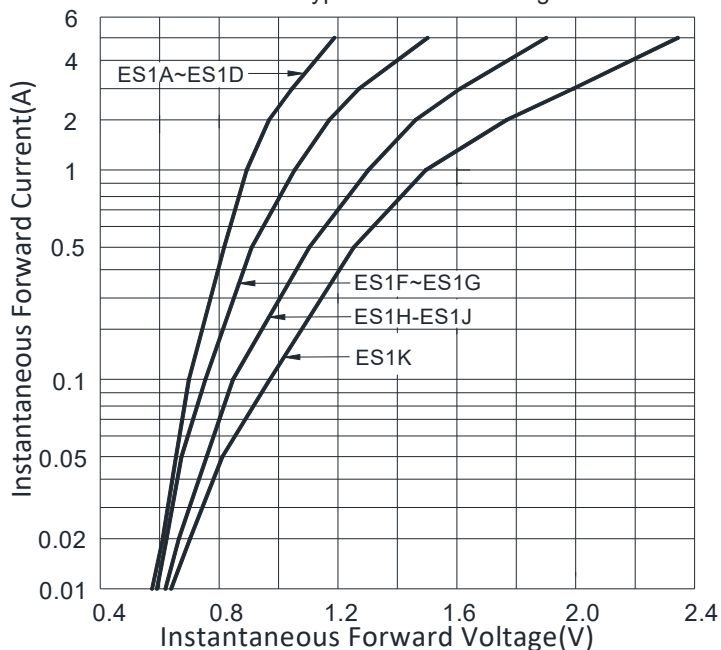


FIG4: Typical Reverse Characteristics

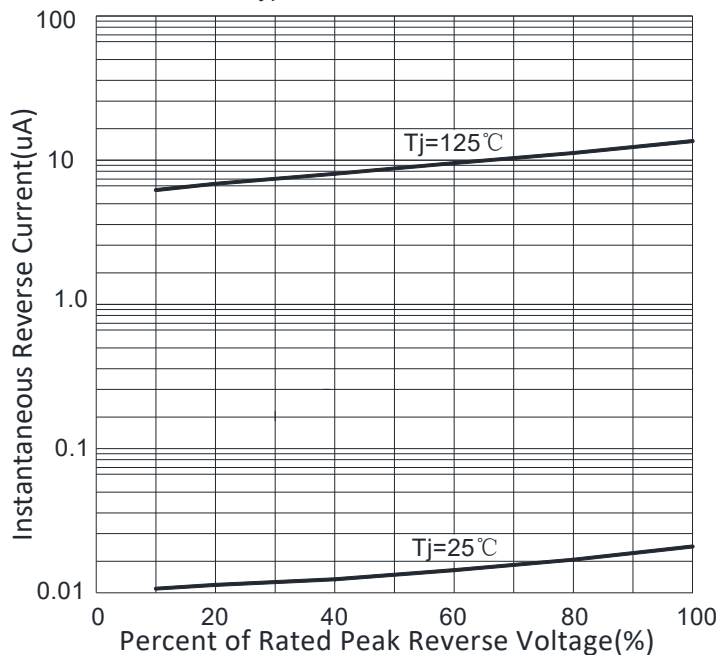
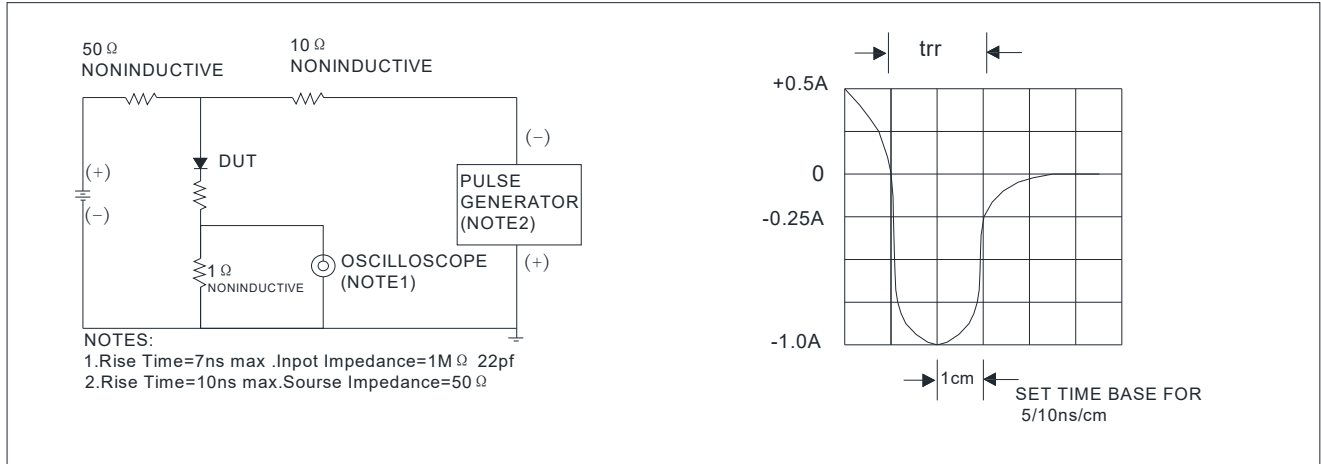


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG	CARTON NW/KG
SMA	5000/REEL	80000	36X30.6X31	12.00	11.00