



ES2AAQ THRU ES2JAQ

Surface Mount Super Fast Recovery Rectifier

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
- Part no. with suffix "Q" means AEC-Q101 qualified

Typical Applications

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

Maximum Ratings (Ta=25 °C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	ES2AAQ	ES2BAQ	ES2CAQ	ES2DAQ	ES2FAQ	ES2GAQ	ES2HAQ	ES2JAQ
Marking code			ES2AA	ES2BA	ES2CA	ES2DA	ES2FA	ES2GA	ES2HA	ES2JA
Peak reverse voltage	V _{RRM}	V	50	100	150	200	300	400	500	600
RMS Voltage	V _{RMS}	V	35	70	105	140	210	280	350	420
DC blocking Voltage	V _{DC}	V	50	100	150	200	300	400	500	600
Rectified output current (continuous sine wave, Resistance load, T _L (Fig.1))	I _O	A	2.0							
Repetitive forward current (Half-sine wave, 1 cycle, Ta=25 °C)	I _{FSM}	A	50							
Storage temperature	T _{stg}		-55~+175							
Junction temperature	T _J		-55~+175							

Electrical Characteristics (Ta=25 °C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	ES2AAQ	ES2BAQ	ES2CAQ	ES2DAQ	ES2FAQ	ES2GAQ	ES2HAQ	ES2JAQ
Instantaneous forward voltage drop per diode	V _F	V	I _{FM} =2.0A	0.95				1.3		1.7	
Reverse recovery time	T _{RR}	ns	I _F =0.5A, I _R =1.0A, I _{rr} =0.25A	35							
Junction capacitance	C _J	pF	V _R =4V, f=1MHz	30				25		20	
DC reverse current @ V _{RM} =V _{RRM}	I _{RRM}	μA	Ta=25 °C	5							
			Ta=125 °C	100							



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Thermal Characteristics $T_a=25$ Unless otherwise specified

PARAMETER	SYMBOL	UNIT	ES2AAQ	ES2BAQ	ES2CAQ	ES2DAQ	ES2FAQ	ES2GAQ	ES2HAQ	ES2JAQ
Thermal Resistance	R_{J-A}	/W	85 ¹⁾							
	R_{J-L}	/W	20 ¹⁾							

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

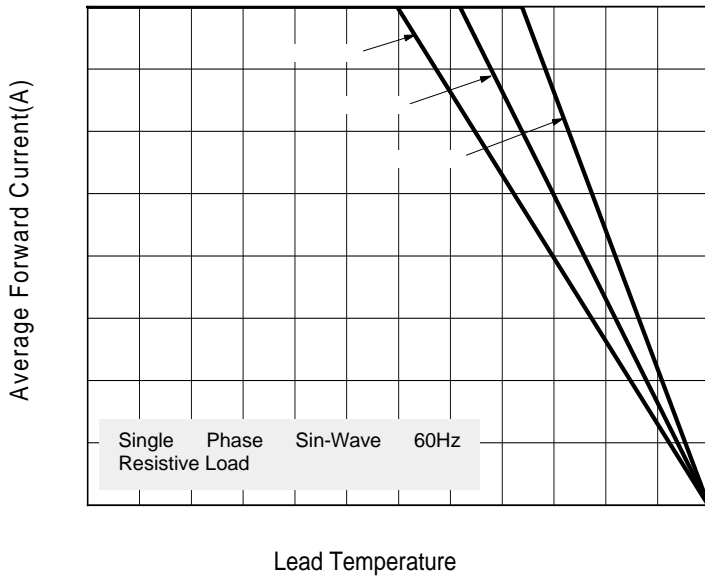


Fig.2: Surge Forward Current Capability

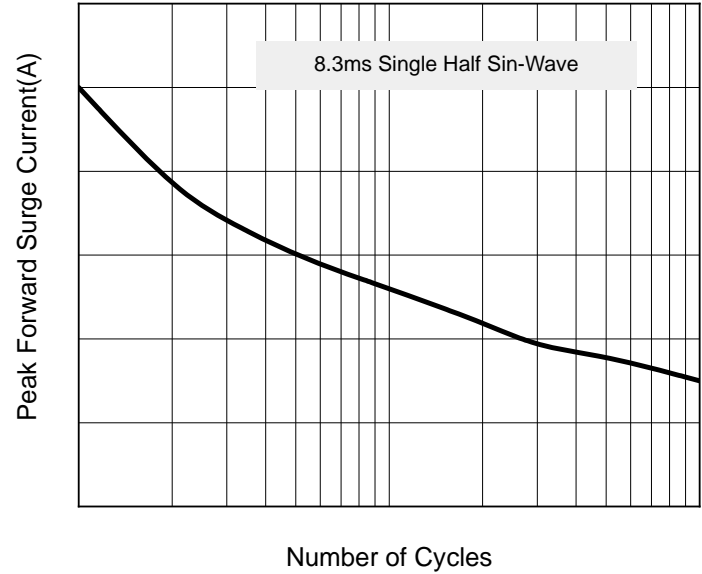


Fig.3: Typical Forward Characteristics

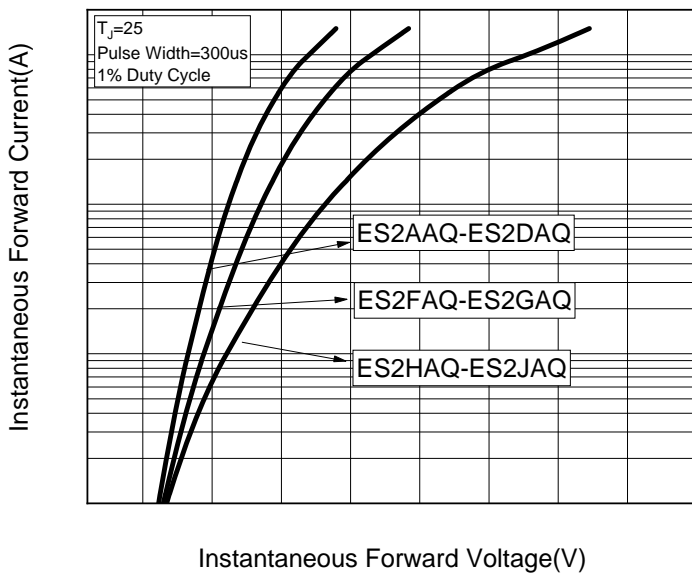
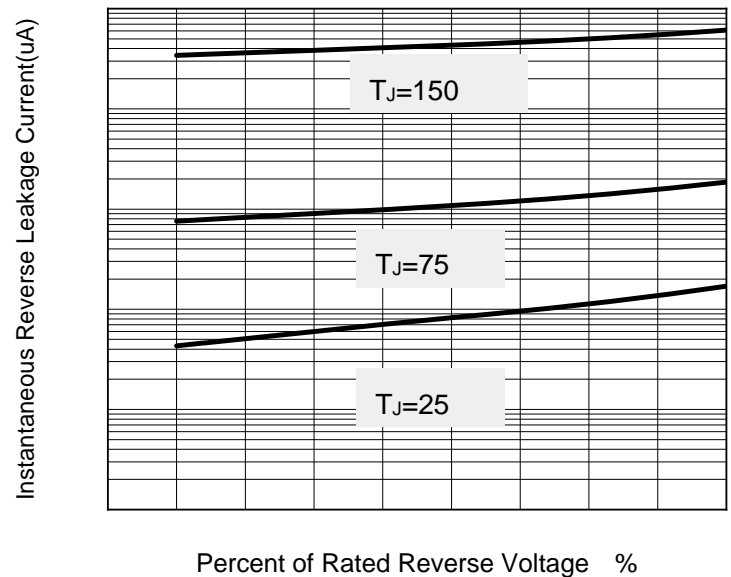


Fig.4: Typical Reverse Characteristics





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