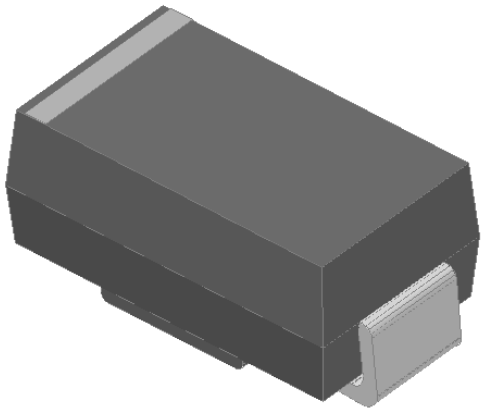
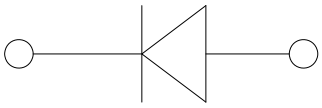
Surface Mount Ultra Fast Recovery Rectifier





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

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

■Maximum Ratings (Ta=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	UG2AA	UG2BA	UG2CA	UG2DA	UG2FA	UG2GA	UG2HA	UG2JA
Device marking code			UG2AA	UG2BA	UG2CA	UG2DA	UG2FA	UG2GA	UG2HA	UG2JA
Maximum 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
Maximum DC blocking Voltage	V_{DC}	V	50	100	150	200	300	400	500	600
Average rectified output current @60Hz sine wave, Resistance load, TL (FIG.1)	I_O	A	2.0							
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave,1 cycle, Tj=25℃	I_{FSM}	A	50							
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25℃			100							
Current squared time @1ms≤t≤8.3ms Tj=25℃	I^2t	A^2s	10.375							
Storage temperature	Tstg	℃	-55 ~ +150							
Junction temperature	Tj	℃	-55 ~ +150							

■Electrical Characteristics (Ta=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	UG2AA	UG2BA	UG2CA	UG2DA	UG2FA	UG2GA	UG2HA	UG2JA
Maximum instantaneous forward voltage	VF	V	I_{FM}=2.0A	0.92				1.25		1.7	
Maximum reverse recovery time	t_{rr}	ns	I_F=0.5A,I_R=1.0A, I_{rr}=0.25A	25						35	
Maximum DC reverse current at rated DC blocking voltage	I_R	μA	Tj =25℃	5							
			Tj =125℃	50							
Typical junction capacitance	Cj	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	40				26		23	

■Dynamic Characteristics

◆ UG2AA THRU UG2DA

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Reverse Recovery Time	T_{RR}	ns	Tj=25℃	I_F=1A，di/dt=-50A/us V_{RM}=30V	-	26	-
			Tj=25℃	I_F=2A di/dt=-200A/us V_{RM}=100V	-	23	-
			Tj=125℃		-	30	-
Peak recovery current	I_{RRM}	A	Tj=25℃		-	3.1	-
			Tj=125℃		-	5.0	-
Reverse recovery charge	Qrr	nC	Tj=25℃		-	35.4	-
			Tj=125℃		-	73.8	-
Non-repetitive avalanche energy	E_{AS}	mJ	Tj=25℃	I_R=1.8 A，L=15 mH	24.3	-	-

◆ UG2FA THRU UG2GA

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Reverse Recovery Time	T_{RR}	ns	Tj=25℃	I_F=1A，di/dt=-50A/us V_{RM}=30V	-	26	-
			Tj=25℃	I_F=2A di/dt=-200A/us V_{RM}=200V	-	24	-
			Tj=125℃		-	36	-
Peak recovery current	I_{RRM}	A	Tj=25℃		-	2.7	-
			Tj=125℃		-	4.5	-
Reverse recovery charge	Qrr	nC	Tj=25℃		-	32.3	-
			Tj=125℃		-	82.8	-
Non-repetitive avalanche energy	E_{AS}	mJ	Tj=25℃	I_R=0.5A，L=15 mH	1.9	-	-

◆ UG2HA THRU UG2JA

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Reverse Recovery Time	T_{RR}	ns	Tj=25℃	I_F=1A，di/dt=-50A/us V_{RM}=30V	-	40	-
			Tj=25℃	I_F=2A di/dt=-200A/us V_{RM}=400V	-	38	-
			Tj=125℃		-	59	-
Peak recovery current	I_{RRM}	A	Tj=25℃		-	4.2	-
			Tj=125℃		-	6.5	-
Reverse recovery charge	Qrr	nC	Tj=25℃		-	78.9	-
			Tj=125℃		-	192.7	-
Non-repetitive avalanche energy	E_{AS}	mJ	Tj=25℃	I_R=0.7A，L=15 mH	3.7	-	-

■Thermal Characteristics （T_a=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	UG2AA	UG2BA	UG2CA	UG2DA	UG2FA	UG2GA	UG2HA	UG2JA
Typical Thermal resistance	$R_{\theta J-A}$(1)	℃/W	75							
	$R_{\theta J-L}$(1)		20							
	$R_{\theta J-C}$(1)		18							

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: Io-TL Curve

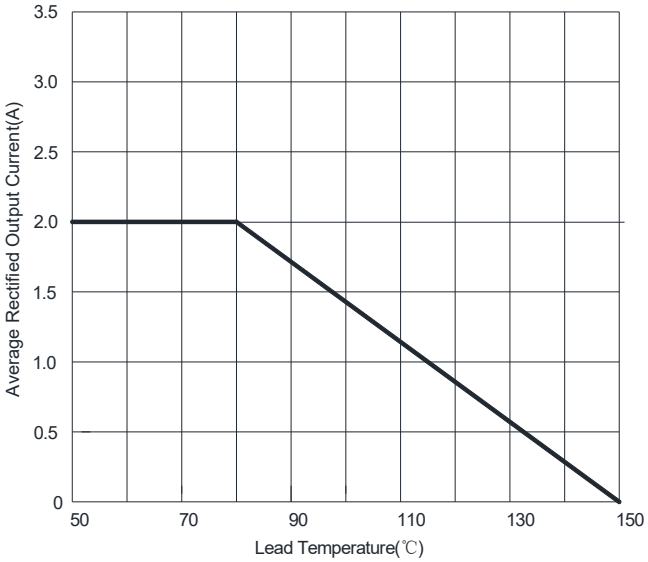


FIG2:Surge Forward Current Capability

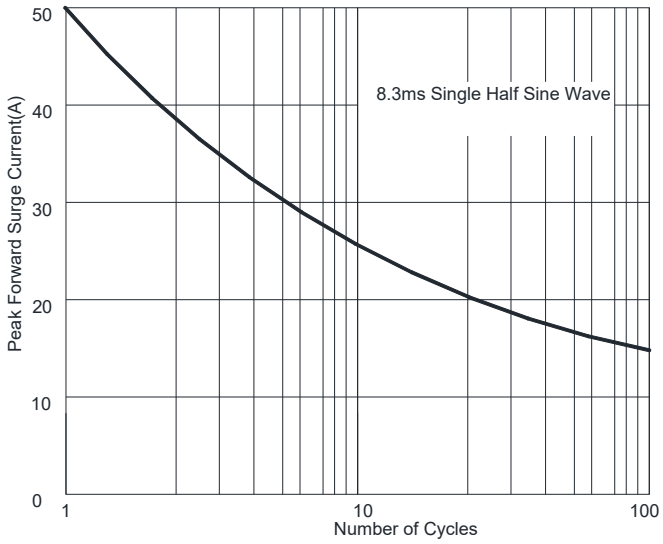


FIG.3: Typilcal Forward Characteristics

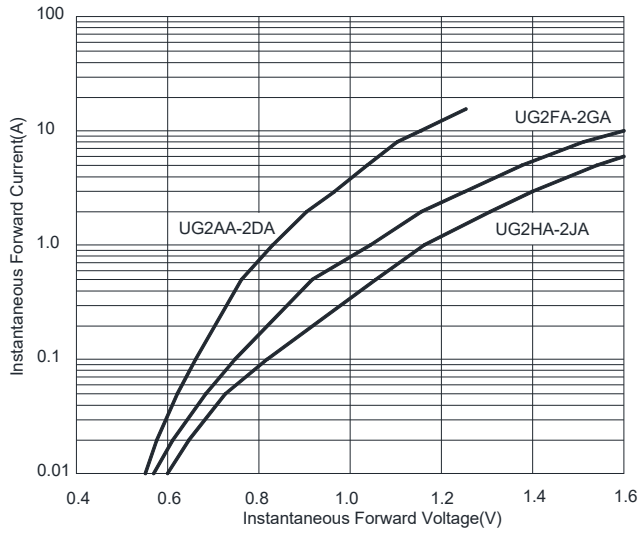


FIG4:Typical Reverse Characteristics

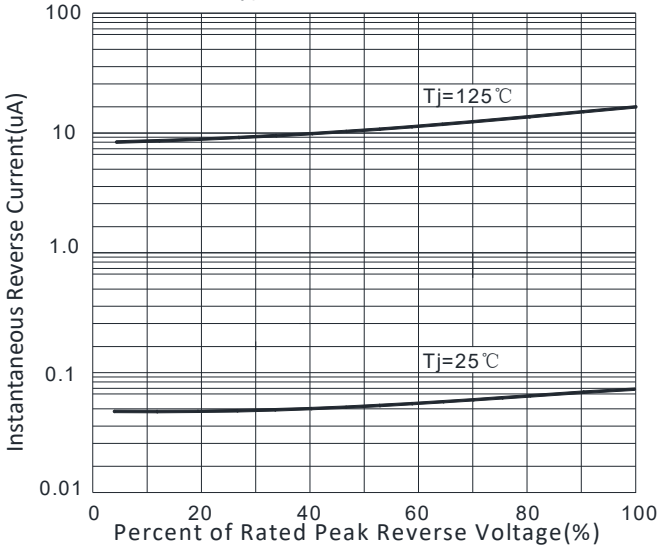
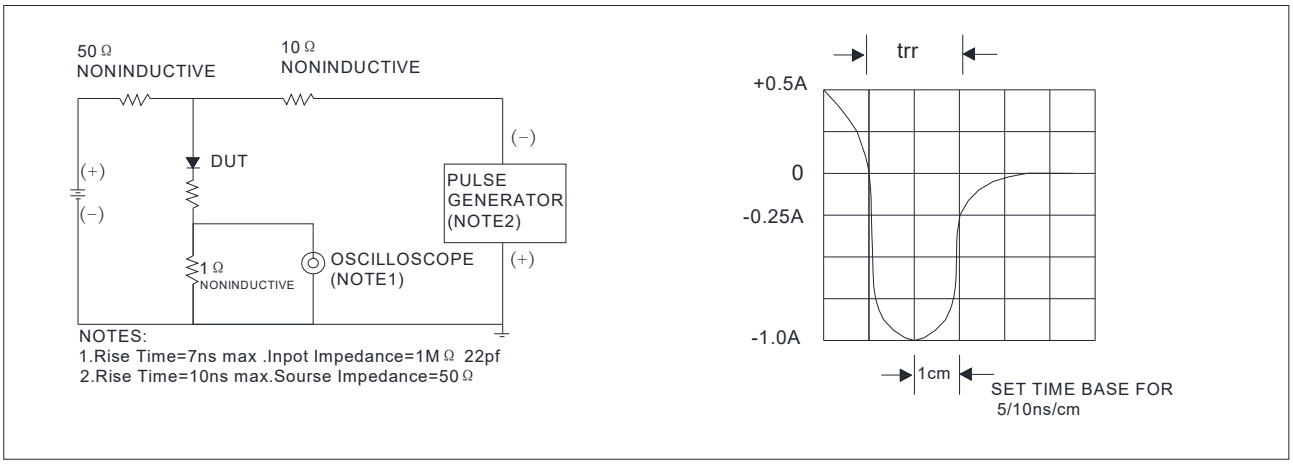


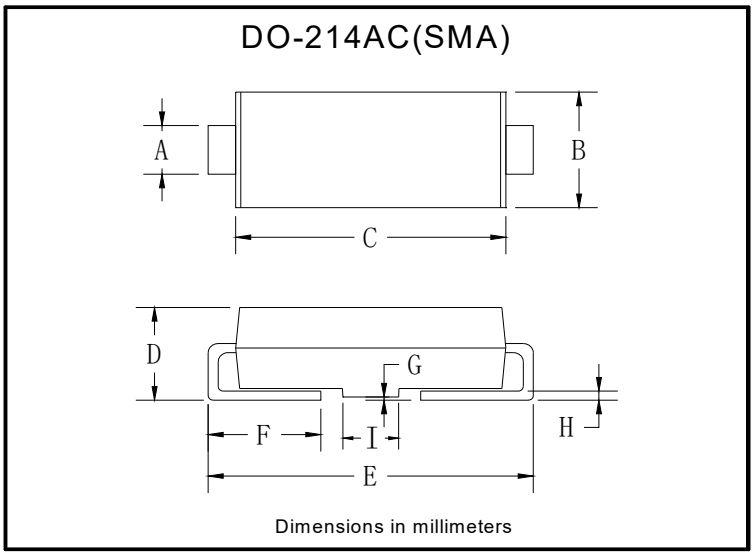
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



■Ordering Information (Example)

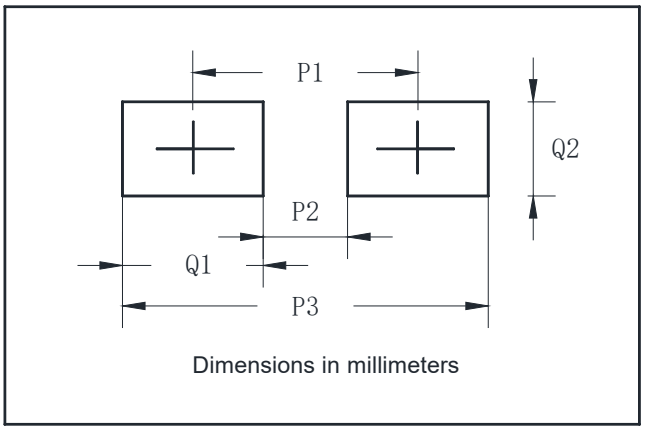
PREFERED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
UG2AA- UG2JA	F1	Approximate 0.059	5000	/	80000	13” reel
UG2AA- UG2JA	F2	Approximate 0.059	7500	/	120000	13” reel
UG2AA- UG2JA	F3	Approximate 0.059	7500	/	60000	13” reel
UG2AA- UG2JA	F4	Approximate 0.059	1800	14400	57600	7” reel
UG2AA- UG2JA	F5	Approximate 0.059	2000	16000	64000	7” reel
UG2AA- UG2JA	F6	Approximate 0.059	5000	/	100000	13” reel

■ Outline Dimensions



DO-214AC(SMA)		
Dim	Min	Max
A	1.25	1.58
B	2.40	2.83
C	4.00	4.75
D	1.90	2.30
E	4.93	5.28
F	0.76	1.41
G	0.05	0.20
H	0.15	0.31
I	1.70	2.10

■Suggested Pad Layout



DO-214AC(SMA)	
Dim	Millimeters
P1	4.00
P2	1.50
P3	6.50
Q1	2.50
Q2	1.70

Notice

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