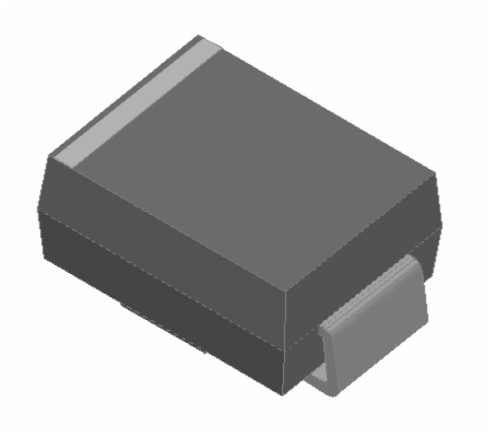
Surface Mount Super Fast Recovery Rectifier

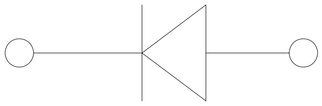


Features

- 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

Typical Applications

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



Mechanical Data

- **Package**: DO-214AA (SMB)
  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 (T_a=25 Unless otherwise specified

PARAMETER	SYMBOL	UNIT	UG3AB	UG3BB	UG3CB	UG3DB	UG3FB	UG3GB	UG3HB	UG3JB
Device marking code			UG3AB	UG3BB	UG3CB	UG3DB	UG3FB	UG3GB	UG3HB	UG3JB
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	3.0							
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave,1 cycle, Tj=25	I_{FSM}	A	100							
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25			200							
Current squared time @1ms≤t≤8.3ms Tj=25	I^2t	A^2s	41.5							
Storage temperature	T_{stg}		-55 ~ +150							
Junction temperature	T_j		-55 ~ +150							

UG3AB THRU UG3JB

■Electrical Characteristics Ta=25 Unless otherwise specified

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	UG3AB	UG3BB	UG3CB	UG3DB	UG3FB	UG3GB	UG3HB	UG3JB
Maximum instantaneous forward voltage	V_F	V	I_{FM}=3.0A	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	65				58		55	

■Dynamic Characteristics

UG3AB THRU UG3DB

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Reverse Recovery Time	T_{RR}	ns	Tj=25	I_F=1A di/dt=-50A/us	-	30	-
			[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
			Tj=12	I_F=3A di/dt=-200A/us V_{RM}=100V	-	35	-
Peak recovery current	I_{RRM}	A	Tj=25		-	3.8	-
			Tj=125		-	6.5	-
Reverse recovery charge	Qrr	nC	Tj=25		-	39.9	-
			Tj=125		-	113.2	-
Non-repetitive avalanche energy	E_{AS}	mJ	Tj=25	I_B=3.6 A L=15 mH	116.6	-	-

UG3FB THRU UG3GB

PARAMETER		UNIT				Max
Reverse Recovery Time	T_{RR}	ns	Tj=25	di/dt=-50A/us V		

[redacted]

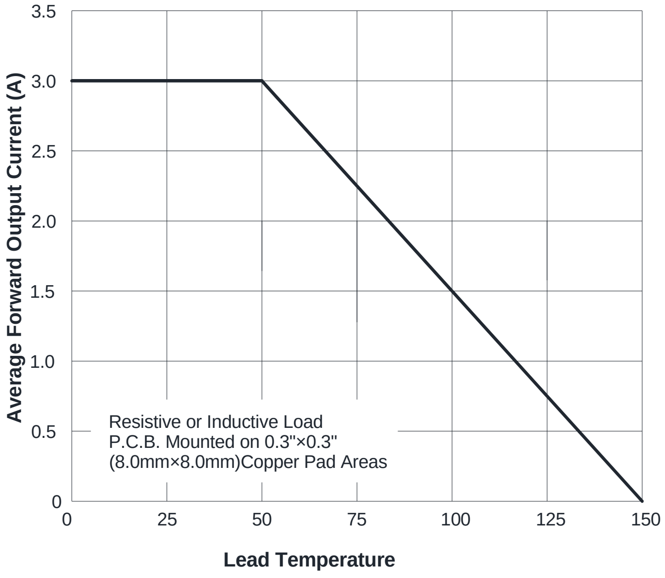
■Thermal Characteristics T_a=25   Unless otherwise specified

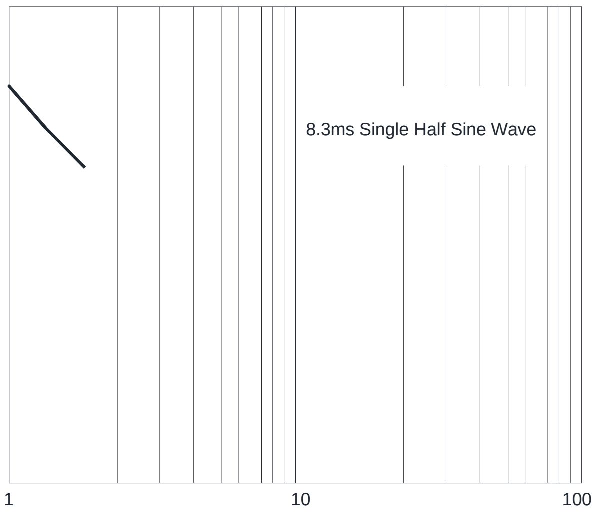
PARAMETER	SYMBOL	UNIT	UG3AB	UG3BB	UG3CB	UG3DB	UG3FB	UG3GB	UG3HB	UG3JB
Typical Thermal resistance	RθJ-A(1)	/W	65							
	RθJ-L(1)		20							
	RθJ-C(1)		18							

Note:
(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad areas

■ Characteristics (Typical)

FIG.1: Io-TL Curve





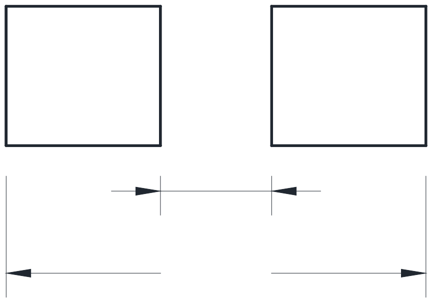
■Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
UG3AB-UG3JB	F1	Approximate 0.096	3000	/	48000	13” reel
UG3AB-UG3JB	F2	Approximate 0.096	750	6000	24000	7” reel
UG3AB-UG3JB	F3	Approximate 0.096	500	4000	16000	7” reel

■ Outline Dimensions

DO-214AA(SMB)
Dim

ƴ Suggested pad layout



Dimensions in millimeters

DO-214AA(SMB)	
Dim	Millimeters
P1	6.8
P2	4.3
P3	1.8
Q1	2.5
Q2	2.3

Disclaimer