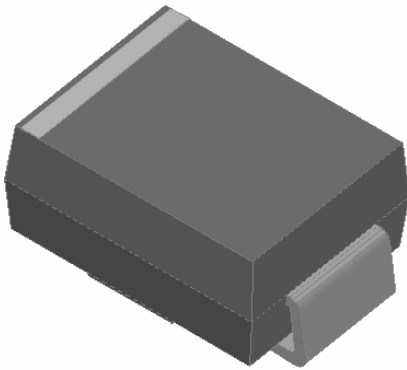


Surface Mount Super Fast Recovery Rectifier

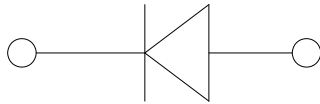


Features

- 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, T _j =25	I _{FSM}	A	100							
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, T _j =25			200							
Current squared time @1ms≤t≤8.3ms T _j =25	I ² t	A ² s	41.5							
Storage temperature	T _{stg}		-55 ~ +150							
Junction temperature	T _j		-55 ~ +150							



UG3AB THRU UG3JB

■Electrical Characteristics $T_a=25$ 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	T _j =25	5							
			T _j =125	50							
Typical junction capacitance	C _j	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	$T_j=25$ $I_F=1A$ $di/dt=-50A/us$	-	30	-
			$T_j=125$	-	35	-
Peak recovery current	I_{RRM}	A	$T_j=25$ $I_F=3A$ $di/dt=-200A/us$ $V_{RM}=100V$	-	3.8	-
			$T_j=125$	-	6.5	-
Reverse recovery charge	Q_{rr}	nC	$T_j=25$	-	39.9	-
			$T_j=125$	-	113.2	-
Non-repetitive avalanche energy	E_{AS}	mJ	$T_j=25$ $I_B=3.6 A$ $L=15 mH$	116.6	-	-

UG3FB THRU UG3GB

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



UG3AB THRU UG3JB

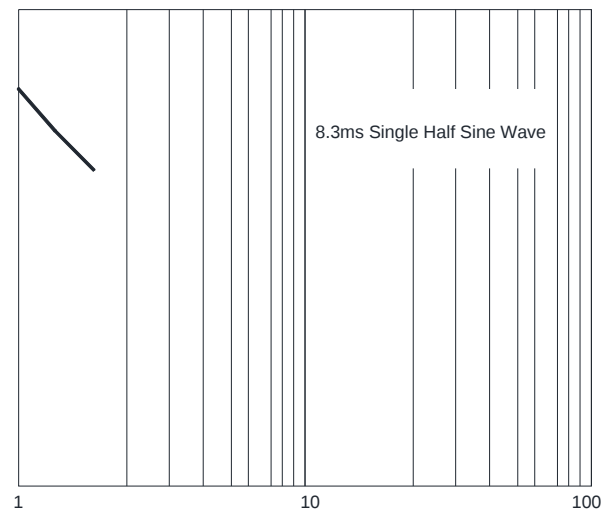
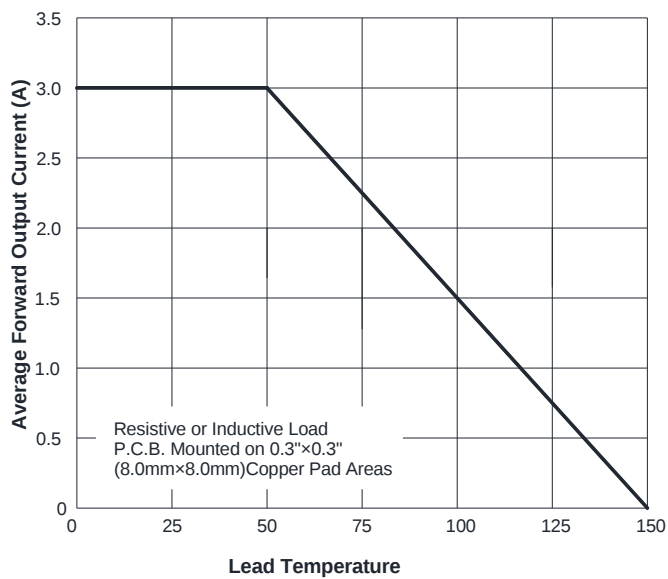
■ Thermal Characteristics $T_a=25$ Unless otherwise specified

PARAMETER	SYMBOL	UNIT	UG3AB	UG3BB	UG3CB	UG3DB	UG3FB	UG3GB	UG3HB	UG3JB
Typical Thermal resistance	$R_{\theta J-A}^{(1)}$	/W	65							
	$R_{\theta J-L}^{(1)}$		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 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad areas

■ Characteristics (Typical)

FIG.1: Io-TL Curve





UG3AB THRU UG3JB

■ 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

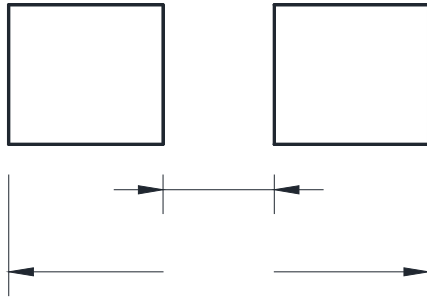
DO-214AA(SMB)

Dim



UG3AB THRU UG3JB

Ω 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



UG3AB THRU UG3JB

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