



# U1AF THRU U1JF

## 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:** SMAF

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	U1AF	U1BF	U1CF	U1DF	U1FF	U1GF	U1HF	U1JF
Device marking code			U1AF	U1BF	U1CF	U1DF	U1FF	U1GF	U1HF	U1JF



# U1AF THRU U1JF

## Dynamic Characteristics

### ¥ U1AF THRU U1DF

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Reverse Recovery Time	$T_{RR}$	ns	Tj=25	$I_F=1A$ di/dt=-50A/us $V_{RM}=30V$	-	27	-
			Tj=25	$I_F=1A$ di/dt=-200A/us $V_{RM}=100V$	-	18	-
			Tj=125		-	24	-
Peak recovery current	$I_{RRM}$	A	Tj=25	$I_F=1A$ di/dt=-200A/us $V_{RM}=100V$	-	2.4	-
			Tj=125		-	3.9	-
Reverse recovery charge	Qrr	nC	Tj=25	$I_F=1A$ di/dt=-200A/us $V_{RM}=100V$	-	21.6	-
			Tj=125		-	46.6	-
Non-repetitive avalanche energy	EAS	mJ	Tj=25	$I_R=1.5A$ L=15 mH	16.9	-	-

### ¥ U1FF THRU U1GF

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	$I_F=1A$ di/dt=-200A/us $V_{RM}=200V$	-	22	-
			Tj=125		-	31	-
Peak recovery current	$I_{RRM}$	A	Tj=25	$I_F=1A$ di/dt=-200A/us $V_{RM}=200V$	-	1.9	-
			Tj=125		-	3.5	-
Reverse recovery charge	Qrr	nC	Tj=25	$I_F=1A$ di/dt=-200A/us $V_{RM}=200V$	-	21.1	-
			Tj=125		-	54.9	-
Non-repetitive avalanche energy	EAS	mJ	Tj=25	$I_R=0.4A$ L=15 mH	1.2	-	-

### ¥ U1HF THRU U1JF

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Reverse Recovery Time	$T_{RR}$	ns	Tj=25	$I_F=1A$ di/dt=-50A/us $V_{RM}=30V$	-	38	-
			Tj=25	$I_F=1A$ di/dt=-200A/us $V_{RM}=400V$	-	32	-
			Tj=125		-	52	-
Peak recovery current	$I_{RRM}$	A	Tj=25	$I_F=1A$ di/dt=-200A/us $V_{RM}=400V$	-	2.9	-
			Tj=125		-	4.7	-
Reverse recovery charge	Qrr	nC	Tj=25	$I_F=1A$ di/dt=-200A/us $V_{RM}=400V$	-	45.8	-
			Tj=125		-	121.9	-
Non-repetitive avalanche energy	EAS	mJ	Tj=25	$I_R=0.3A$ L=15 mH	0.7	-	-

## Thermal Characteristics $T_a=25$ Unless otherwise specified

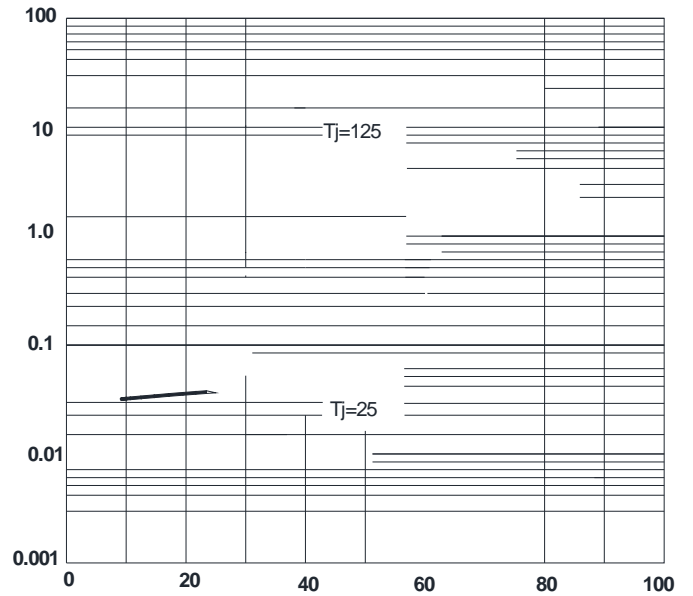
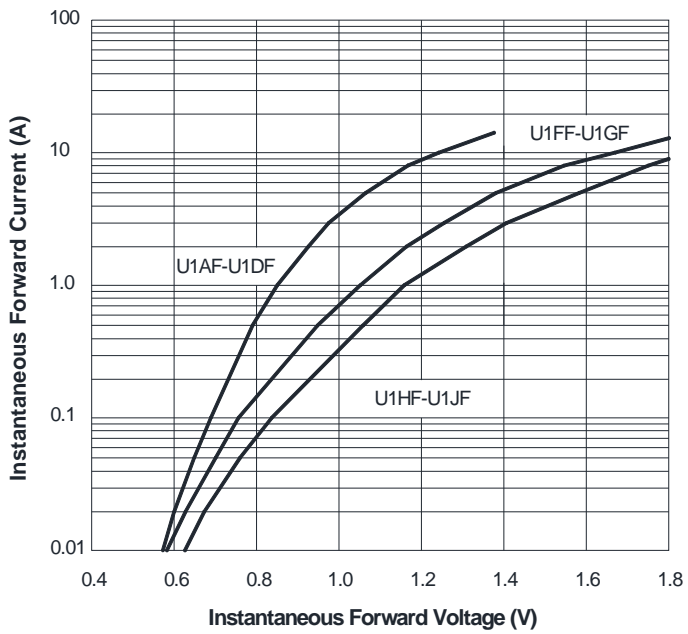
PARAMETER	SYMBOL	UNIT	U1AF	U1BF	U1CF	U1DF	U1FF	U1GF	U1HF	U1JF
Typical Thermal resistance	R J-A <sup>(1)</sup>	/W	60							
	R J-L <sup>(1)</sup>		20							
	R J-C <sup>(1)</sup>		18							

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.3: Typical Forward Characteristics





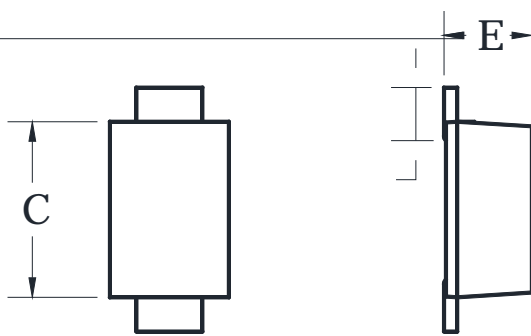
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## Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
U1AF-U1JF	F1	Approximate 0.034	3000	24000	96000	7" reel
U1AF-U1JF	F2	Approximate 0.034	10000	/	160000	13" reel
U1AF-U1JF	F3	Approximate 0.034	10000	/	120000	13" reel
U1AF-U1JF	F4	Approximate 0.034	7500	/	120000	13" reel

## Outline Dimensions

### SMAF



SMAF		
Dim	Min	Max
A	2.40	2.80
B	1.35	1.45
C	3.40	3.60
D	4.40	4.80
E	1.05	1.25
F	0.50	1.00
G	0.15	0.22

Dimensions in millimeters





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