



US1AAFC ~ US1MAFC Series

Surface Mount Ultra Fast Recovery Rectifier

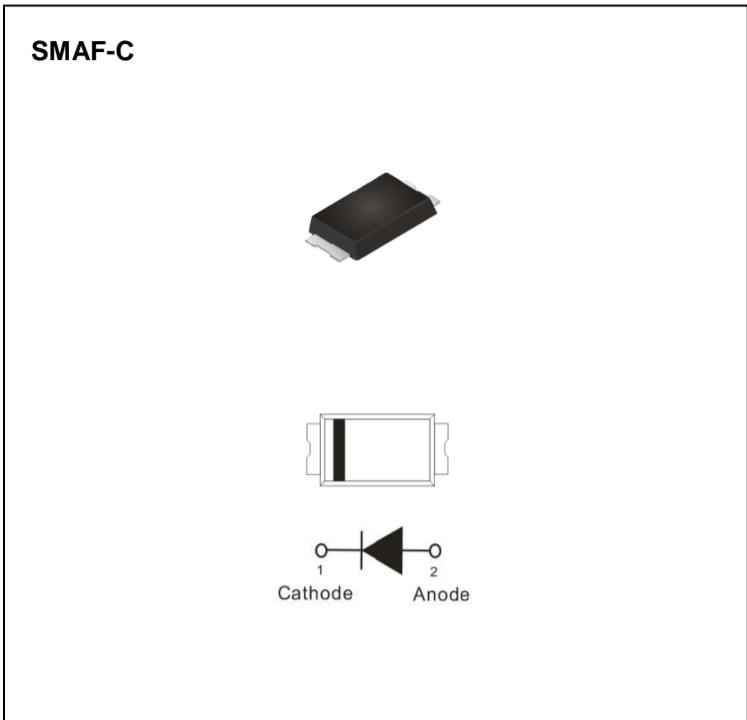
Voltage 50~1000 V **Current** 1 A

Features

- Glass passivated chip junction
- Ultrafast reverse recovery time
- Low forward voltage drop
- Low switching losses, high efficiency
- High forward surge capability
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case : Molded plastic, SMAF-C
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0012 ounces, 0.034 grams



Maximum Ratings and Thermal Characteristics (T_A = 25°C unless otherwise noted)

PARAMETER	SYMBOL	US1AAFC	US1BAFC	US1DAFC	US1GAFC	US1JAFc	US1KAFC	US1MAFC	UNITS	
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	200	400	600	800	1000	V	
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	560	700	V	
Maximum DC Blocking Voltage	V _R	50	100	200	400	600	800	1000	V	
Maximum Average Forward Rectified Current	I _{F(AV)}	1							A	
Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load	I _{FSM}	30							A	
Forward Voltage at 1A	V _F	1		1.4		1.7			V	
Reverse Current	I _R	1							uA	
Typical Junction Capacitance Measured at 1 MHz And Applied V _R = 4V	C _J	20		15		10			pF	
Reverse Recovery Time ^(Note 1)	T _{RR}	50				100				ns
Typical Thermal Resistance	^(Note 2) R _{θJL}	22							°C/W	
	^(Note 3) R _{θJA}	150								
Operating Junction Temperature Range	T _J	-55 to +150							°C	
Storage Temperature Range	T _{STG}	-55 to +150							°C	

NOTES:

1. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1A, Recover to 0.25A
2. Mounted on a FR4 PCB, single-sided copper, with 10cm x 10cm copper pad area
3. Mounted on a FR4 PCB, single-sided copper, standard footprint



US1AAFC ~ US1MAFC Series

TYPICAL CHARACTERISTIC CURVES

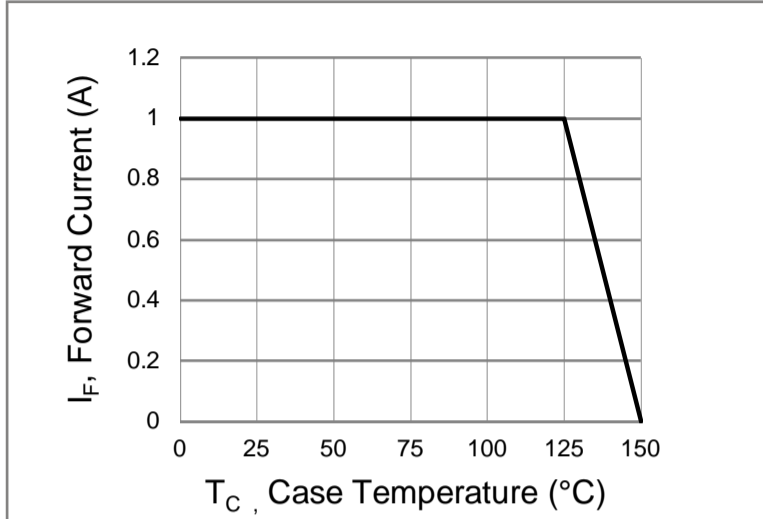


Fig.1 Forward Current Derating Curve

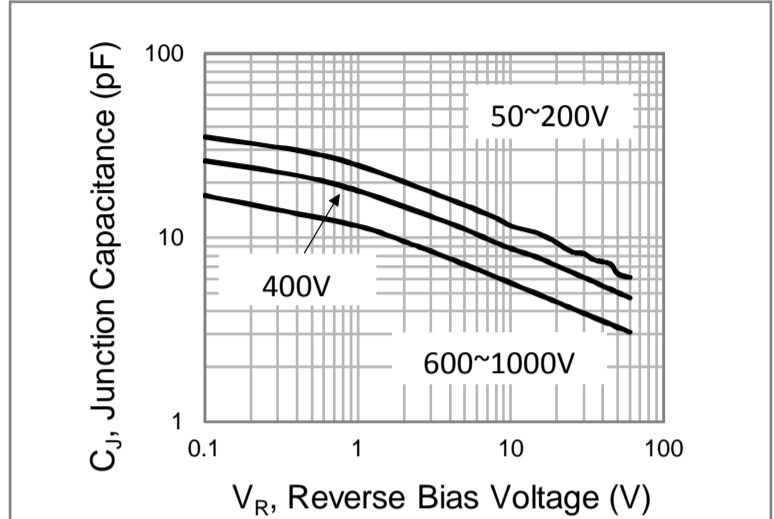


Fig.2 Typical Junction Capacitance

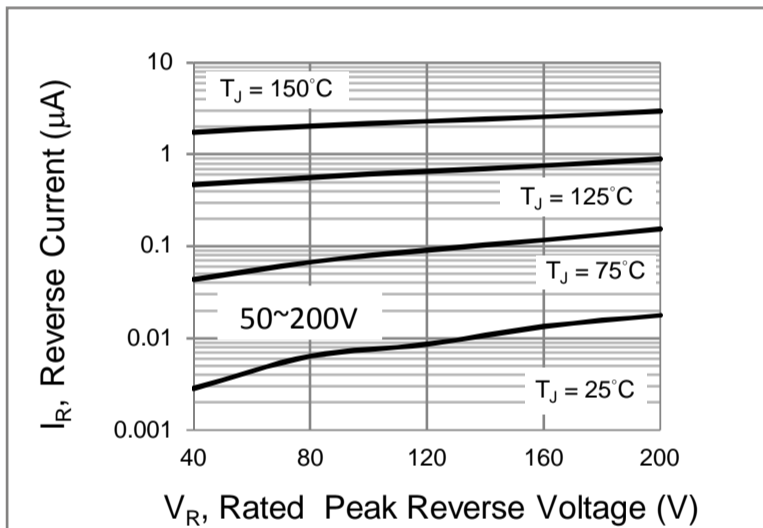


Fig.3 Typical Reverse Characteristics

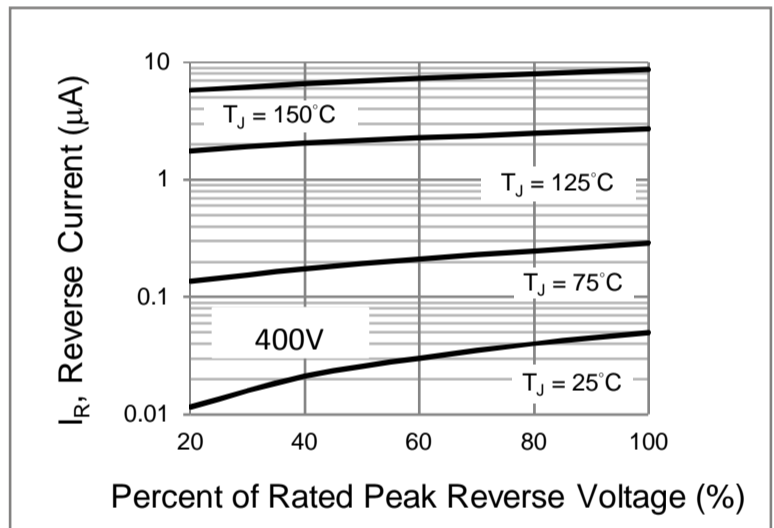


Fig.4 Typical Reverse Characteristics

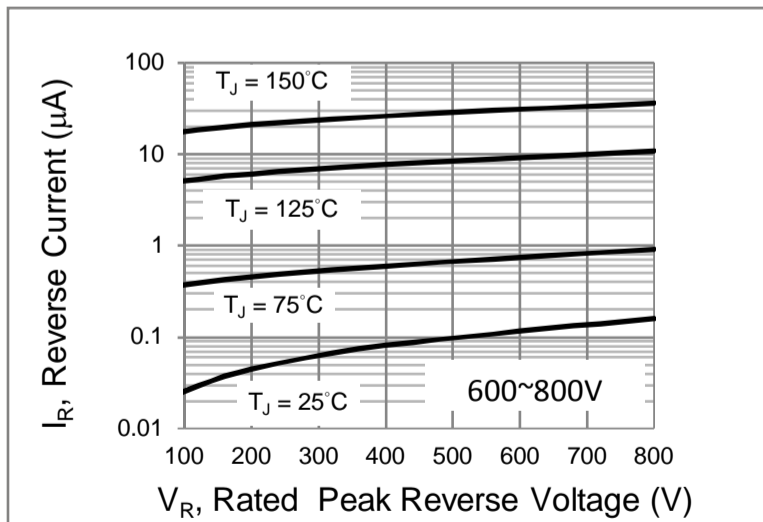


Fig.5 Typical Reverse Characteristics

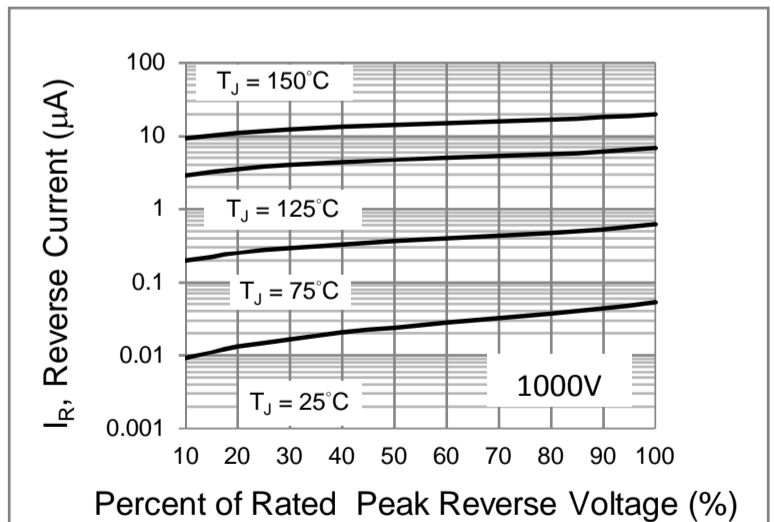


Fig.6 Typical Reverse Characteristics



US1AAFC ~ US1MAFC Series

TYPICAL CHARACTERISTIC CURVES

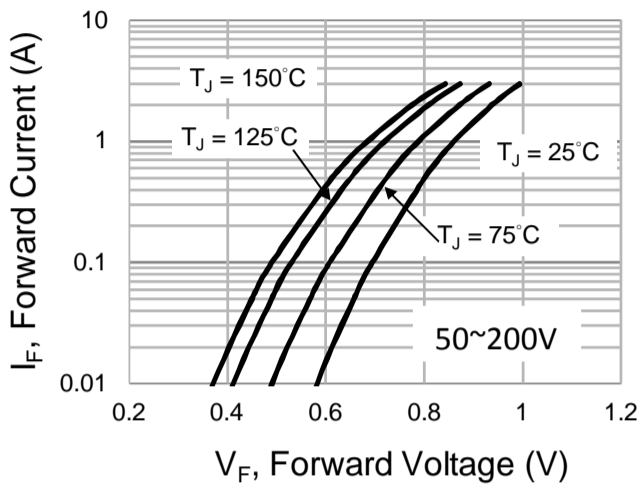


Fig.7 Typical Forward Characteristics

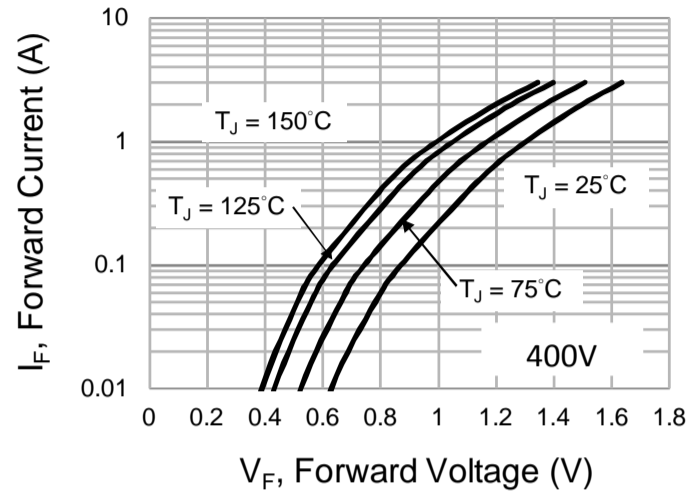


Fig.8 Typical Forward Characteristics

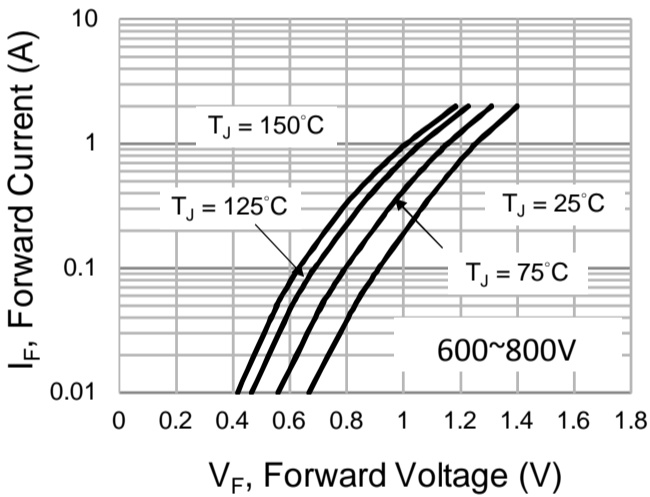


Fig.9 Typical Forward Characteristics

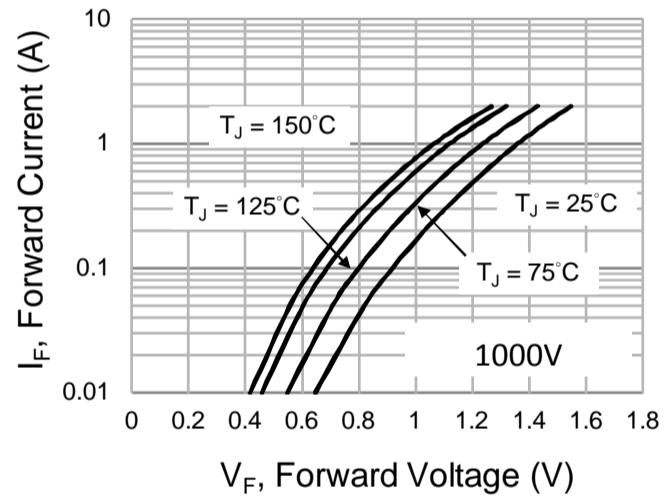


Fig.10 Typical Forward Characteristics



US1AAFC ~ US1MAFC Series

Part No. Packing Code Version

Part No. Packing Code	Package Type	Packing Type	Marking	Version
US1AAFC_R1_00001	SMAF-C	3K pcs / 7" reel	US1A	Halogen free
US1BAFC_R1_00001	SMAF-C	3K pcs / 7" reel	US1B	Halogen free
US1DAFC_R1_00001	SMAF-C	3K pcs / 7" reel	US1D	Halogen free
US1GAFC_R1_00001	SMAF-C	3K pcs / 7" reel	US1G	Halogen free
US1JAFC_R1_00001	SMAF-C	3K pcs / 7" reel	US1J	Halogen free
US1KAFC_R1_00001	SMAF-C	3K pcs / 7" reel	US1K	Halogen free
US1MAFC_R1_00001	SMAF-C	3K pcs / 7" reel	US1M	Halogen free

Packaging Information & Mounting Pad Layout

