

U1J~U1M

SURFACE MOUNT ULTRAFAST RECTIFIER

Voltage

600~1000 V

Current

1 A

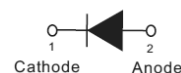
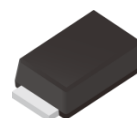
Features

- 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: SMAS Package
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Approx. Weight: 0.0013 ounces, 0.043 grams

SMAS



Maximum Ratings and Thermal Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	U1J	U1K	U1M	UNITS
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	600	800	1000	V
Maximum Rms Voltage	V _{RMS}	420	560	700	V
Maximum Dc Blocking Voltage	V _{DC}	600	800	1000	V
Maximum Average Forward 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
Typical Junction Capacitance Measured at 1 MHZ And Applied V _R = 4 V	C _J	6			pF
Typical Thermal Resistance	R _{θJA} ⁽¹⁾	150			°C/W
	R _{θJC} ⁽²⁾	24			
Operating Junction Temperature Range	T _J	-55~150			°C
Storage Temperature Range	T _{STG}	-55~150			°C



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Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Forward Voltage	V_F	$I_F = 0.5\text{ A}, T_J = 25^\circ\text{C}$	-	1.29	-	V
		$I_F = 1\text{ A}, T_J = 25^\circ\text{C}$	-	1.45	1.7	
		$I_F = 0.5\text{ A}, T_J = 125^\circ\text{C}$	-	1.01	-	
		$I_F = 1\text{ A}, T_J = 125^\circ\text{C}$	-	1.18	-	
Reverse Current	I_R	$V_R = V_{RRM}, T_J = 25^\circ\text{C}$	-	-	1	μA
		$V_R = V_{RRM}, T_J = 125^\circ\text{C}$	-	8.57	-	
Reverse Recovery Time	T_{RR}	$I_F = 0.5\text{ A}, I_R = 1\text{ A},$ $I_{RR} = 0.25\text{ A}, T_J = 25^\circ\text{C}$	-	-	100	ns

NOTES:

1. Mounted on a FR4 PCB, single-sided copper, mini pad.
2. Mounted on a FR4 PCB, single-sided copper, with 100cm² copper pad area.

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TYPICAL CHARACTERISTIC CURVES

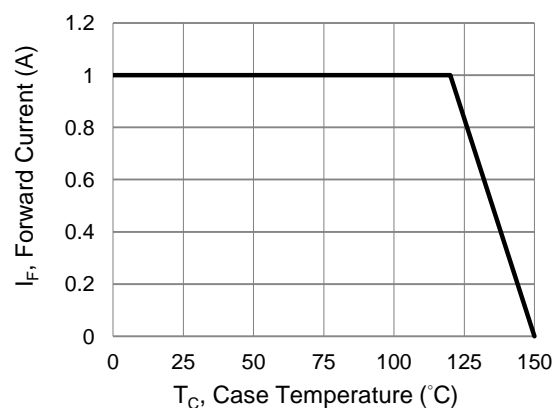


Fig.1 Forward Current Derating Curve

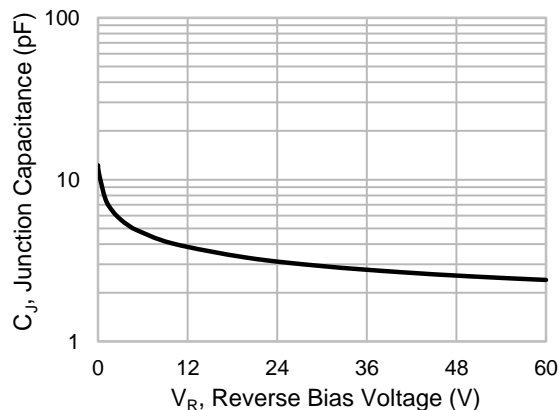


Fig.2 Typical Junction Capacitance

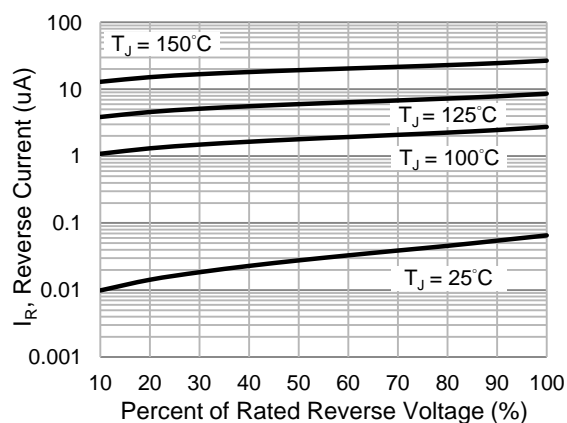


Fig.3 Typical Reverse Characteristics

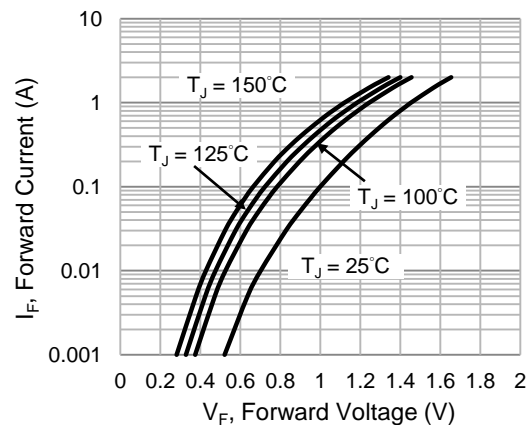


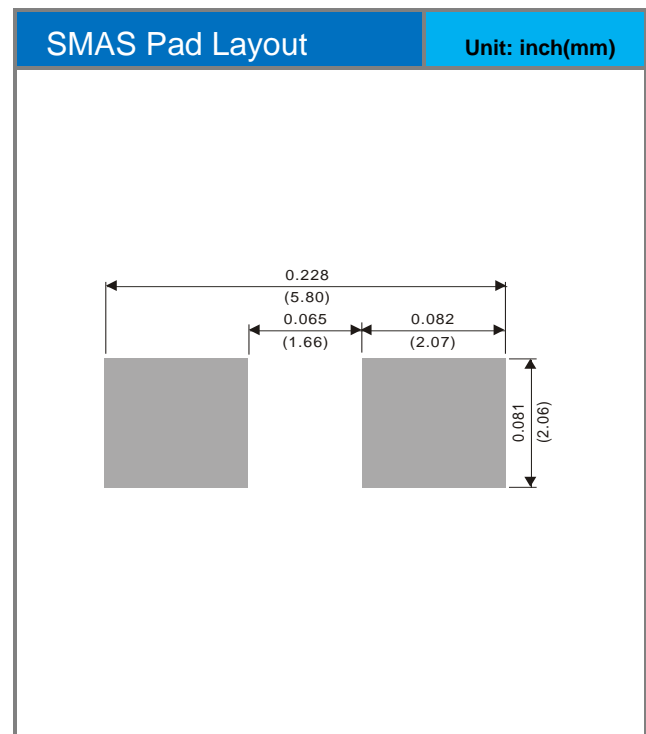
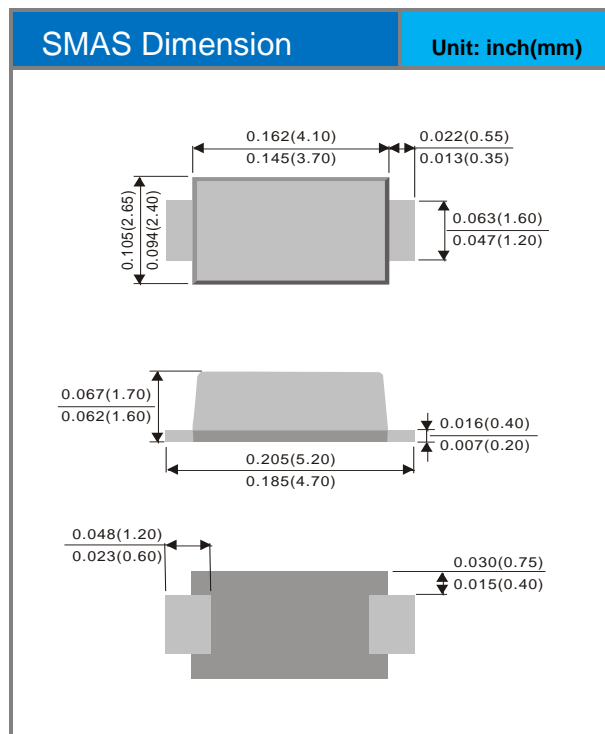
Fig.4 Typical Forward Characteristics

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Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
U1J_R2_00001	SMAS	9.5K / 13" Reel	U1J	Halogen free
U1K_R2_00001	SMAS	9.5K / 13" Reel	U1K	Halogen free
U1M_R2_00001	SMAS	9.5K / 13" Reel	U1M	Halogen free

Packaging Information & Mounting Pad Layout





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