



FRG05W

Surface Mount Ultra Fast Recovery Rectifier

Voltage 1500 V **Current** 0.5 A

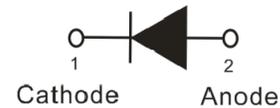
Features

- 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 : SMAG Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.002 ounces, 0.06 grams

SMAG



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

PARAMETER	SYMBOL	LIMIT	UNITS
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	1500	V
Maximum Rms Voltage	V _{RMS}	1060	V
Maximum Dc Blocking Voltage	V _{DC}	1500	V
Maximum Average Forward Current	I _{F(AV)}	0.5	A
Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load	I _{FSM}	20	A
Typical Junction Capacitance Measured at 1 MHZ And Applied V _R = 4 V	C _J	4	pF
Typical Thermal Resistance (Note 1)	R _{θJC}	25	°C/W
(Note 2)	R _{θJA}	150	
Operating Junction Temperature Range	T _J	-55~150	°C
Storage Temperature Range	T _{STG}	-55~150	°C



FRG05W

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

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Forward Voltage	V_F	$I_F = 0.1\text{ A}, T_J = 25^\circ\text{C}$	-	-	2	V
		$I_F = 0.5\text{ A}, T_J = 25^\circ\text{C}$	-	-	2.4	
		$I_F = 0.1\text{ A}, T_J = 125^\circ\text{C}$	-	1.4	-	
		$I_F = 0.5\text{ A}, T_J = 125^\circ\text{C}$	-	1.78	-	
Reverse Current	I_R	$V_R = V_{RRM}, T_J = 25^\circ\text{C}$	-	-	5	uA
		$V_R = V_{RRM}, T_J = 125^\circ\text{C}$	-	5	-	
Reverse Recovery Time	T_{RR}	$I_F = 0.5\text{ A}, I_R = 1\text{ A},$ $I_{RR} = 0.25\text{ A}, T_J = 25^\circ\text{C}$	-	-	300	ns

NOTES :

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



FRG05W

TYPICAL CHARACTERISTIC CURVES

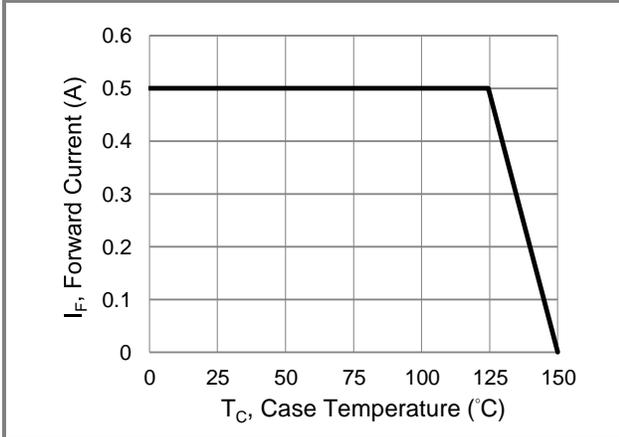


Fig.1 Forward Current Derating Curve

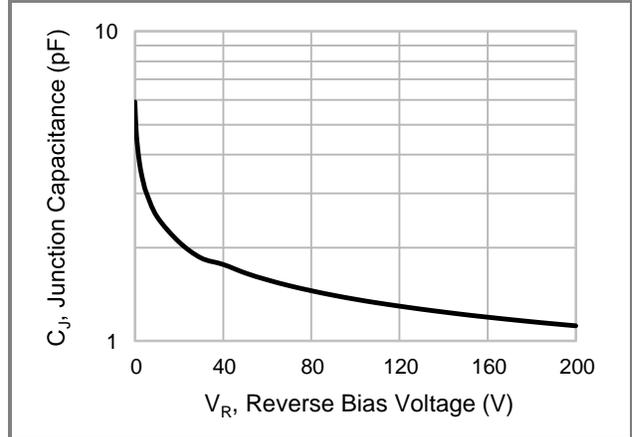


Fig.2 Typical Junction Capacitance

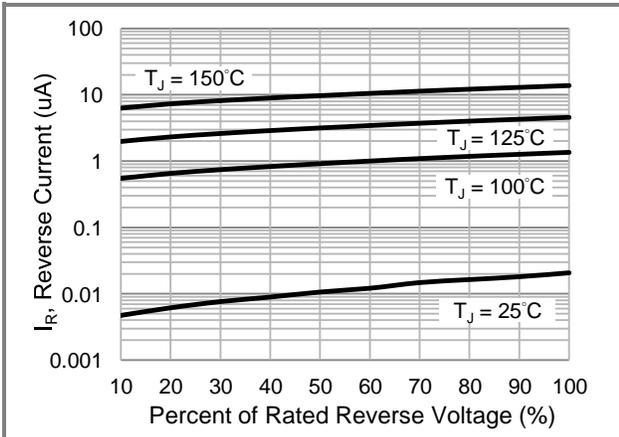


Fig.3 Typical Reverse Characteristics

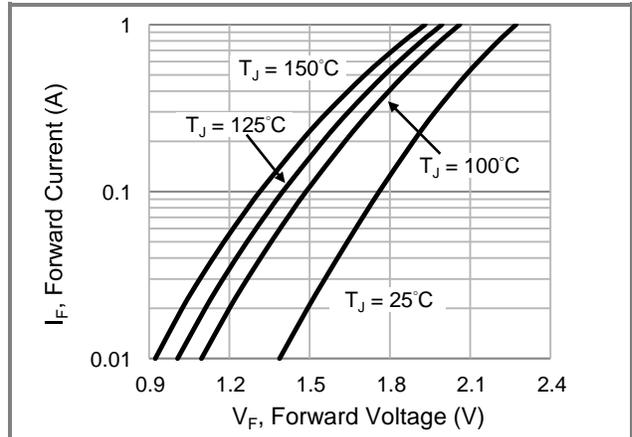


Fig.4 Typical Forward Characteristics

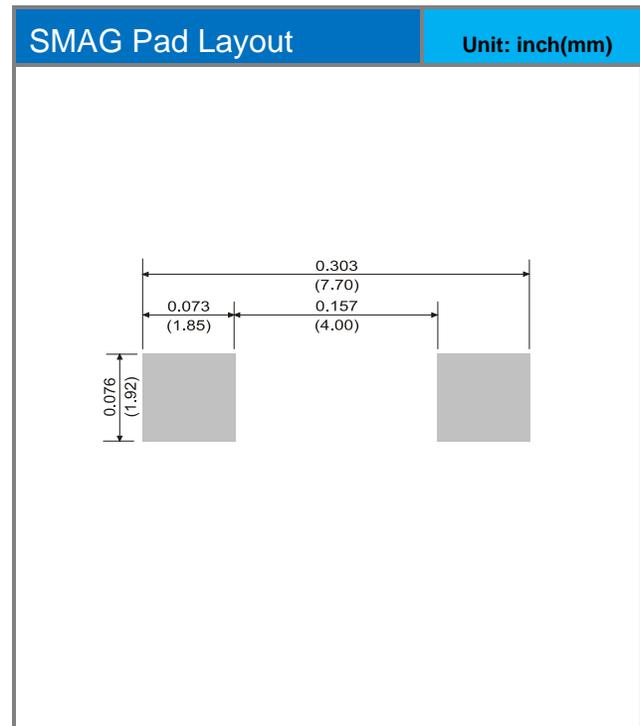
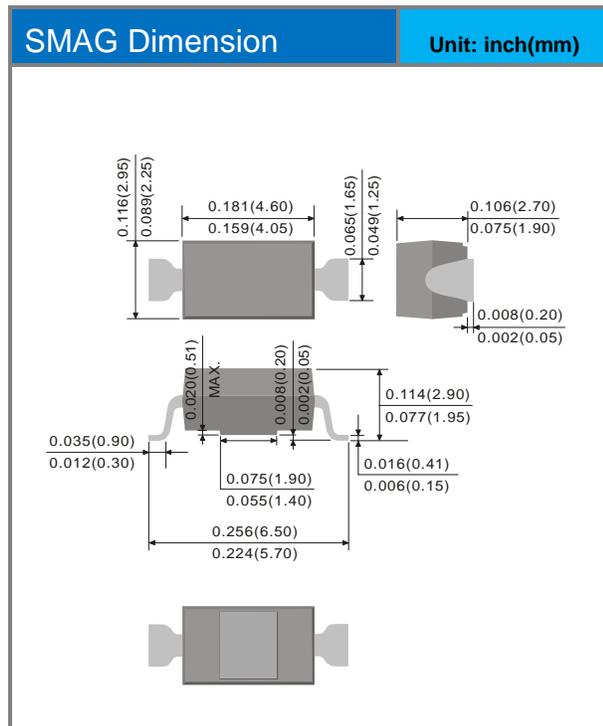


FRG05W

Part No. Packing Code Version

Part No. Packing Code	Package Type	Packing Type	Marking	Version
FRG05W_R1_00001	SMAG	800 pcs / 7" reel	FG05W	Halogen free

Packaging Information & Mounting Pad Layout





FRG05W

Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.