

# BUGP4001W-F THRU BUGP4007W-F

1 Amperes Surface Mount Ultra Fast Rectifiers  
VOLTAGE : 50 TO 1000Volts

Features	Outline
<ul style="list-style-type: none"> <li>• Low profile surface mounted application in order to optimize board space.</li> <li>• Tiny plastic SMD package.</li> <li>• High current capability.</li> <li>• High surge capability.</li> <li>• Glass passivated chip junction.</li> <li>• Suffix "G" indicates Halogen-free part, ex. BUGP4001WG-F.</li> <li>• Lead-free parts meet environmental standards of MIL-STD-19500 /228</li> </ul>	<p>SOD-123F</p> <p>Dimensions in inches and (millimeters)</p>
Mechanical data	
<ul style="list-style-type: none"> <li>• Epoxy:UL94-V0 rated flame retardant</li> <li>• Case : Molded plastic, SOD-123F</li> <li>• Terminals : Solder plated, solderable per MIL-STD-750, Method 2026</li> <li>• Polarity : Indicated by cathode band</li> <li>• Weight : Approximated 0.018 gram</li> </ul>	

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

Parameter	Symbol	BUGP4001W-F	BUGP4002W-F	BUGP4003W-F	BUGP4004W-F	BUGP4005W-F	BUGP4006W-F	BUGP4007W-F	UNIT
Making code		F1	F2	F3	F4	F5	F6	F7	
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	
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	
Maximum Instantaneous Forward Voltage	$V_F$	1.0			1.4	1.70			V
Reverse recovery time	$t_{rr}$	50				75			ns
Operating Temperature	$T_J$	-55 ~ +150							°C

Note:1.RG1,  $I_F = 0.5A$ ,  $I_R = 1.0A$ ,  $I_{RR} = 0.25A$

Parameter	Conditions	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current		$I_o$			1.0	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC methode)	$I_{FSM}$			30	A
Reverse current	$V_R = V_{RRM}$ $T_A = 25^\circ C$	$I_R$			1.0	uA
	$V_R = V_{RRM}$ $T_A = 125^\circ C$				300	

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## Rating and characteristic curves

FIG.1-TYPICAL FORWARD CHARACTERISTICS

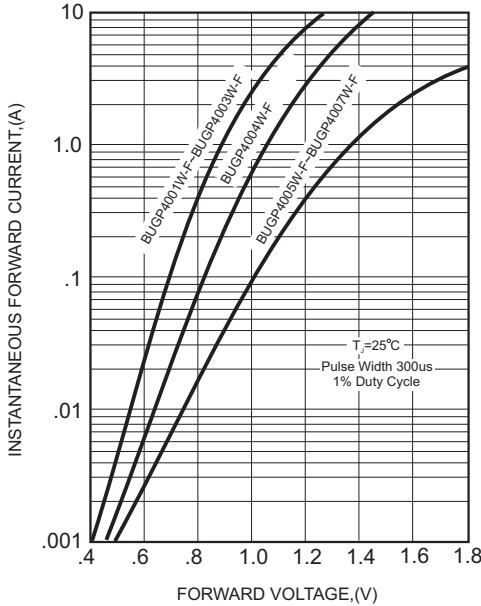


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

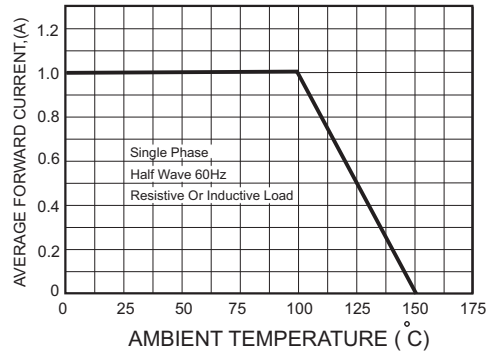


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

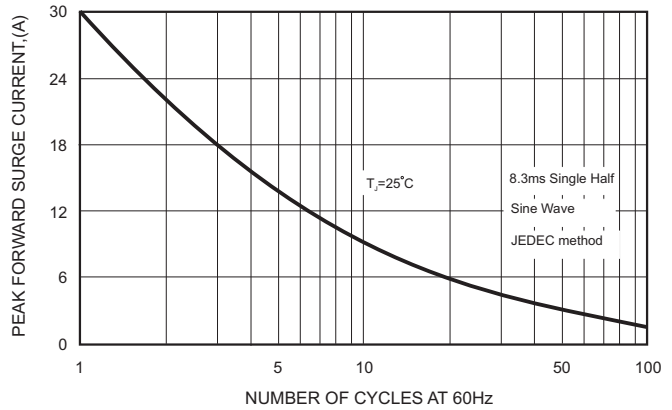
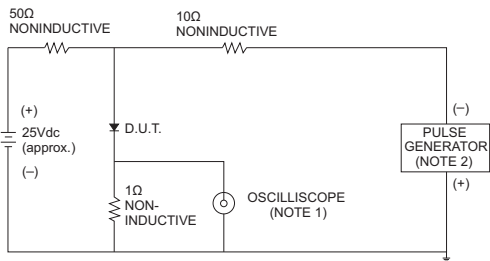


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.  
2. Rise Time= 10ns max., Source Impedance= 50 ohms.

