

1.0A Surface Mount High Efficiency Rectifiers - 50V-1000V

Features

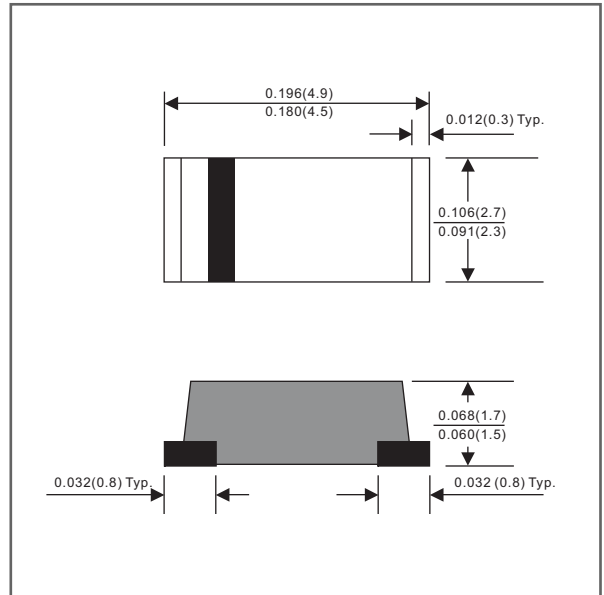
- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low profile surface mounted application in order to optimize board space.
- High current capability.
- Ultrafast recovery time for high efficiency.
- High surge current capability.
- Glass passivated chip junction.
- Lead-free parts meet RoHS requirements.
- Suffix "-H" indicates Halogen free parts, ex. MURA105G-H.

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, JEDEC DO-214AC / SMA
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any
- Weight :Approximated 0.05 gram

Package outline

SMA



Dimensions in inches and (millimeters)

Maximum ratings (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	Ambient temperature = 50°C	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	$V_R = V_{RRM} \quad T_J = 25^{\circ}\text{C}$	I_R			5.0	μA
	$V_R = V_{RRM} \quad T_J = 100^{\circ}\text{C}$				150	
Thermal resistance	Junction to ambient	$R_{\theta JA}$		32		$^{\circ}\text{C}/\text{W}$
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		20		pF
Storage temperature		T_{STG}	-65		+175	$^{\circ}\text{C}$

SYMBOLS	V_{RRM}^{*1} (V)	V_{RMS}^{*2} (V)	V_R^{*3} (V)	V_F^{*4} (V)	T_{RR}^{*5} (nS)	Operating temperature T_{J^*} (°C)
MURA105G	50	35	50	1.00	50	-55 to +150
MURA110G	100	70	100			
MURA120G	200	140	200			
MURA140G	400	280	400	1.30	75	
MURA160G	600	420	600			
MURA180G	800	560	800			
MURA1100G	1000	700	1000			

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@ $I_F=1.0\text{A}$

*5 Maximum Reverse recovery time, note 1

Note 1. Reverse recovery time test condition, $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$

Rating and characteristic curves

FIG.1-TYPICAL FORWARD

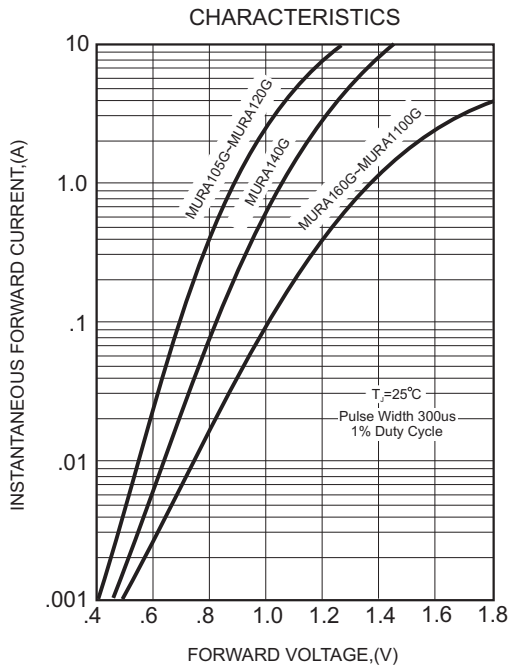


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

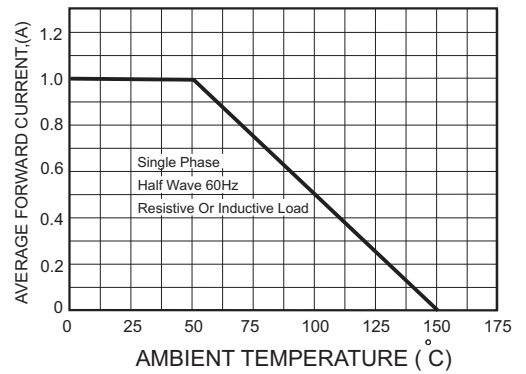
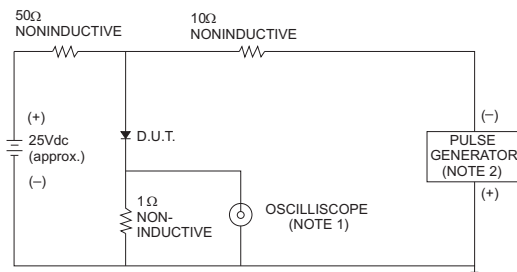


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



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

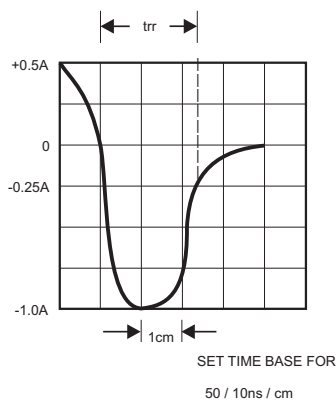


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

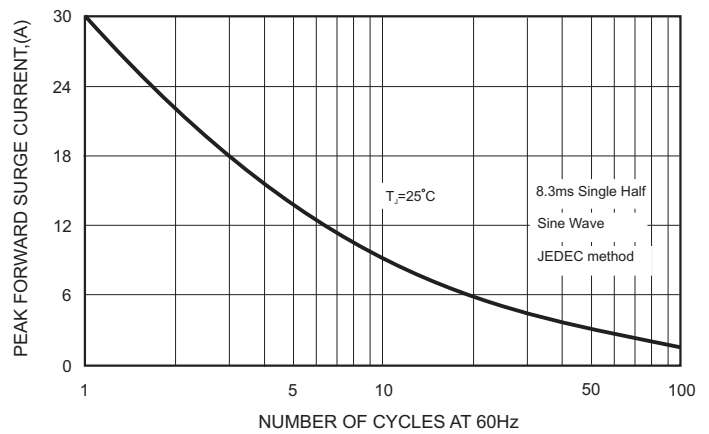


FIG.5-TYPICAL JUNCTION CAPACITANCE

