

## US2MGR

### 2.0AMPS. SURFACE MOUNT ULTRA FAST RECTIFIER

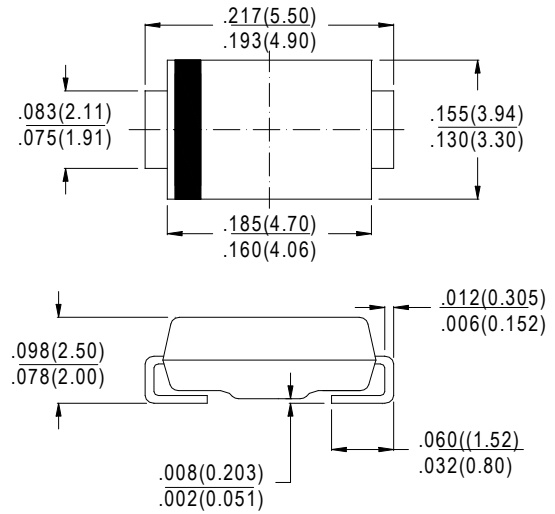
#### FEATURE

- . Glass Passivated clip
- . Low power loss, high efficiency
- . High surge capability
- . Super fast recovery time for high efficiency.
- . For surface mounted application.
- . Easy pick and place
- . High temperature soldering guaranteed:  
260°C/10 seconds at terminals.

#### MECHANICAL DATA

- . Terminal: Solder plated
- . Case: Molded with UL-94 Class V-0 recognized  
Flame Retardant Epoxy
- . Polarity: color band denotes cathode
- . Weight: 0.096 grams

#### SMB (DO-214AA)



Dimensions in inches and (millimeters)

#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Type Number	SYM BOL	US2MGR	units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	1000	V
Maximum RMS Voltage	$V_{RMS}$	700	V
Maximum DC blocking Voltage	$V_{DC}$	1000	V
Maximum Average Forward Rectified Current at $T_L = 90^\circ\text{C}$	$I_{F(AV)}$	2.0	A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	50	A
Maximum Forward Voltage at 2.0A DC	$V_F$	1.7	V
Maximum DC Reverse Current @ $T_J = 25^\circ\text{C}$ at rated DC blocking voltage @ $T_J = 125^\circ\text{C}$	$I_R$	10.0 350.0	$\mu\text{A}$
Maximum Reverse Recovery Time (Note1)	$t_{rr}$	75	nS
Typical Junction Capacitance (Note2)	$C_J$	30	pF
Typical Thermal Resistance (Note 3)	$R_{(JA)}$ $R_{(JL)}$	40 15	$^\circ\text{C/W}$
Storage Temperature	$T_{STG}$	-55 to +150	$^\circ\text{C}$
Operation Junction Temperature	$T_J$	-55 to +150	$^\circ\text{C}$

#### Note:

1. Test Conditions:  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{RR} = 0.25\text{A}$
2. Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
3. Measured on P.C.Board with 10.0×10.0mm Cu Copper Pad Areas.

**RATING AND CHARACTERISTIC CURVES (US2MGR)**

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

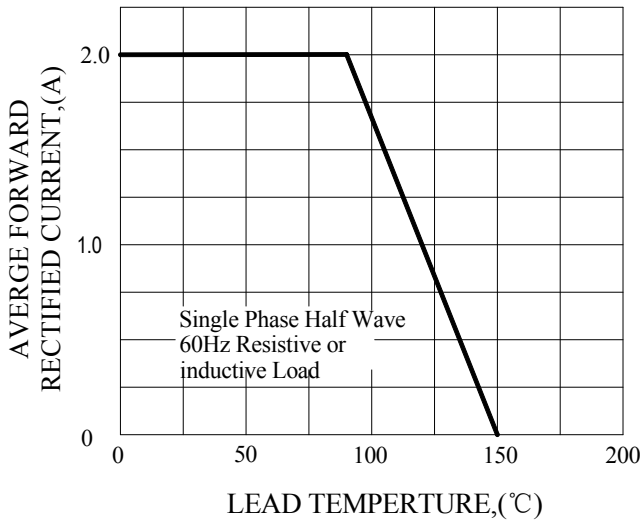


FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

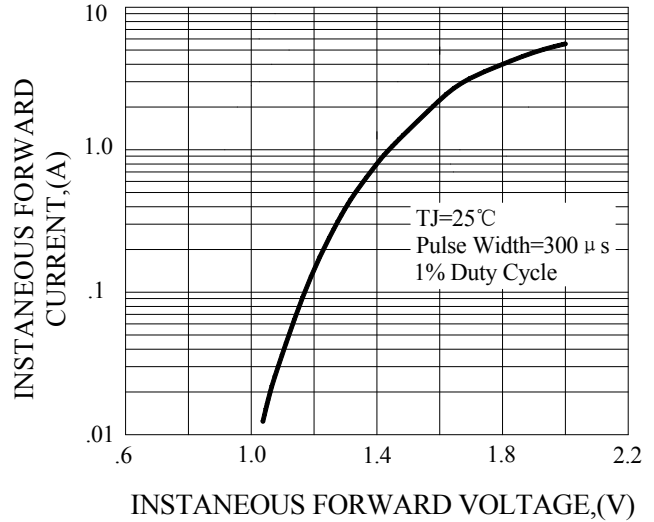


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

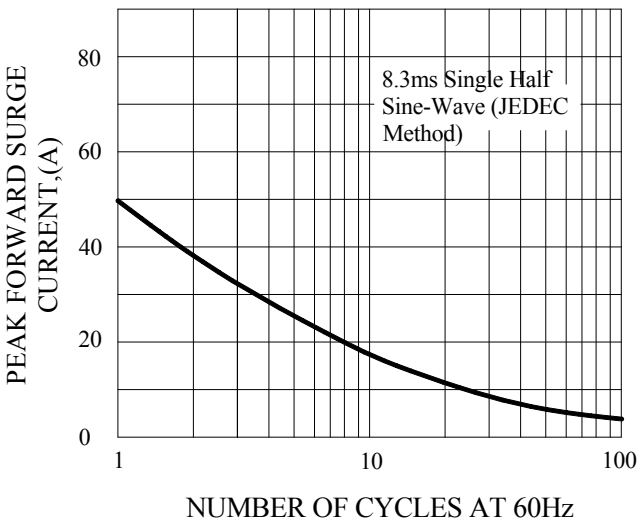


FIG.4-TYPICAL REVERSE CHARACTERISTICS

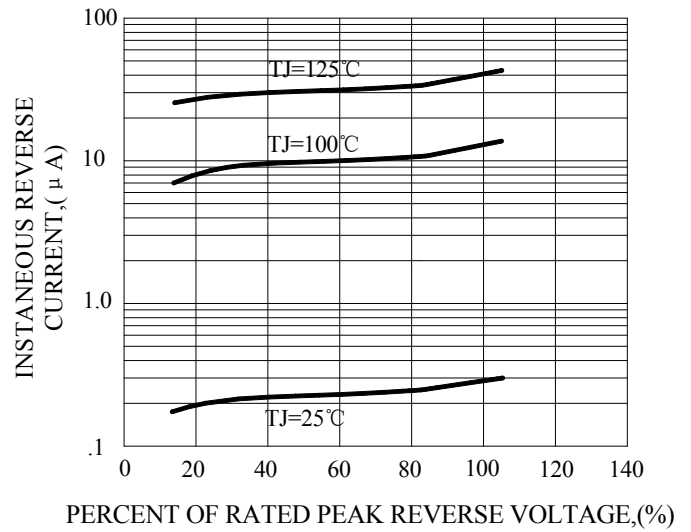
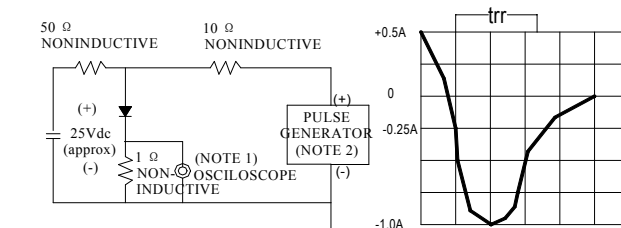


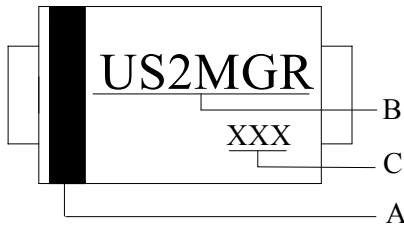
FIG.5-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

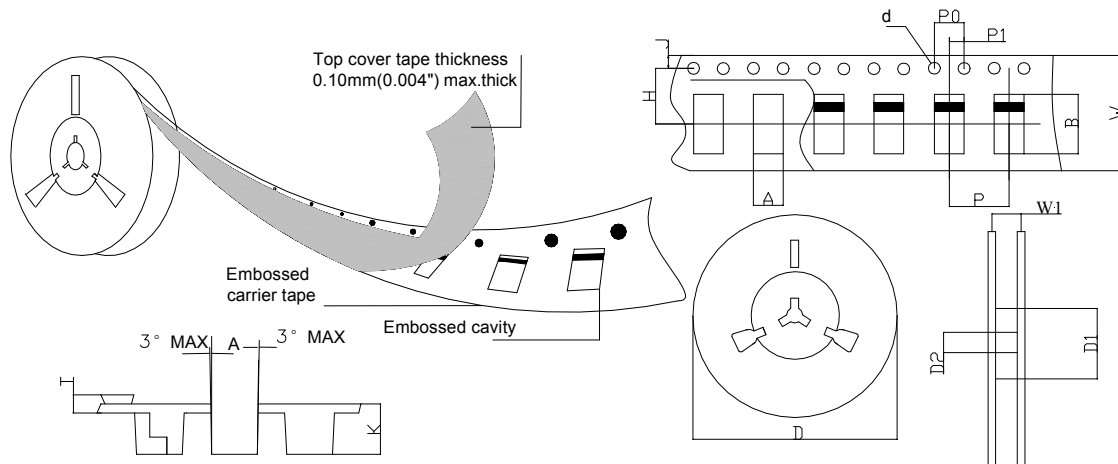
## Marking and packaging illustration

### 1、Marking



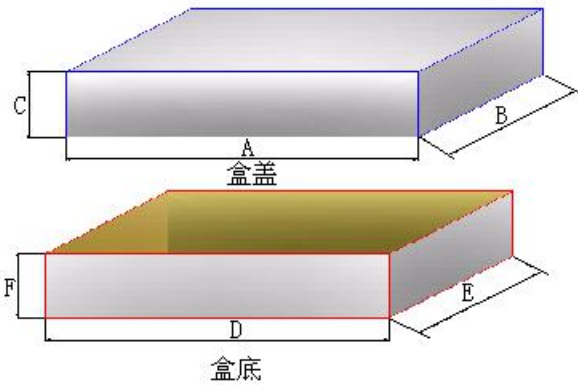
SYMBOL	Explanation
<b>A</b>	<b>Color Band Denotes Cathode</b>
<b>B</b>	<b>Product Name</b>
<b>C</b>	<b>Date Code</b>

### 2、Packaging

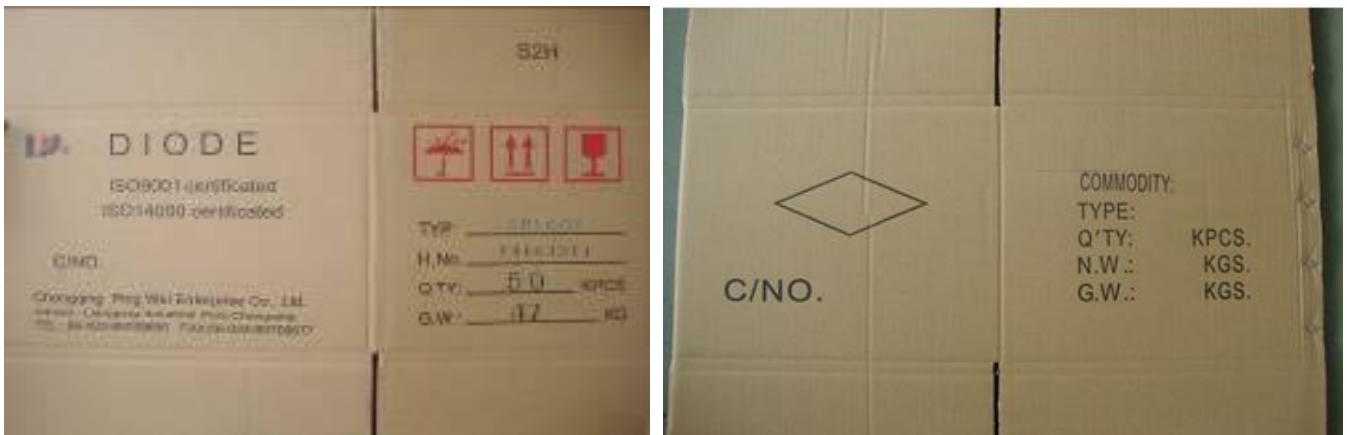


SPECIFICATIONS mm(inch)		PACKAGE	SPECIFICATIONS mm(inch)		PACKAGE
ITEM	SYM BOL	SMB (DO-214AA)	ITEM	SYM BOL	SMB (DO-214AA)
Carrier width	A	3.81(0.150)Max	Carrier depth	K	2.45(0.965)Typ
Carrier length	B	5.41(0.213)Max	Punch hole pitch	P	8.00(0.315)Typ
Sprocket hole	d	ø1.55(0.061)Typ	Sprocket hole pitch	P0	4.00(0.157)Typ
Reel outer diameter	D	330.0(13.0)Typ	Embossment center	P1	2.00(0.079)Typ
Reel inner diameter	D1	50.0(1.969)Min	Overall tape thickness	T	0.30(0.012)Typ
Feed hole diameter	D2	13.0(0.512)Typ	Tape width	W	12.0(0.472)Typ
Sprocket hole position	J	1.75(0.069)Typ	Reel width	W1	12.4(0.488)Min
Punch hole position	H	5.55(0.219)Typ			

### 3.1 内包装(inner box)



### 3.2 外包装(outer carton)



### 3.3 Quantity

OUTLINE	Inner BOX SIZE (mm) L×W×H	Inner BOX (PCS)	CARTON SIZE (mm) L×W×H	CARTON (PCS)
SMB (DO-214AA)	340*340*40	6000	385×385×360	48000

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