

# AUTOMOTIVE GENERAL PURPOSE RECTIFIER

Reverse Voltage - 1000 Volts  
 Forward Current - 2.0Amperes

## FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Stable, High temperature, Glass passivated junction
- -V suffix for Automotive and other applications requiring unique site and control change requirements
- PPAP capable
- AEC-Q101 qualified
- High temperature soldering guaranteed: 260°C/10 seconds at terminals
- Component in accordance to RoHS 2015/863/EU



IATF16949认证



**AEC-Q101 Qualified**

## MECHANICAL DATA

- Case: JEDEC SMB(DO-214AA) molded plastic body
- Terminals: Solder Plated, solderable per MIL-STD-750, method 2026 Polarity:
- Color band denotes cathode end
- Weight: 0.003ounce, 0.093 gram



CASE: SMB(DO-214AA) MARKING:  
 W-Work week  
 M-Work month  
 Y-Work year  
 S-Assembly location S2MB:  
 Device code V: for  
 automobile

## TYPICAL APPLICATIONS

For use in high voltage rectifier, polarity protection, clamp applications

## MAXIMUM RATINGS

(Ratings at 25°C ambient temperature unless otherwise specified)

Parameters	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	1000	V
Maximum average forward rectified current	$I_{F(AV)}$	2.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	$I_{FSM}$	50	A
Operating junction temperature range	$T_J$	-55 to +150	°C
Storage temperature range	$T_{stg}$	-55 to +150	°C

**ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C Unless otherwise noted)**

Parameter	Test Conditions		Symbol	Min.	Typ.	Max.	Unit
Breakdown voltage Blocking voltage	I <sub>R</sub> =10 μA	T <sub>J</sub> =25°C	V <sub>BR</sub> V <sub>R</sub>	1000	–	–	V
Instaneous forward voltage	I <sub>F</sub> =2.0A	T <sub>J</sub> =25°C	V <sub>F</sub> <sup>1)</sup>	–	0.95	1.00	V
		T <sub>J</sub> =125°C		–	0.85	–	
Reverse current	V <sub>R</sub> =1000V	T <sub>J</sub> =25°C	I <sub>R</sub> <sup>2)</sup>	–	–	1.0	μA
		T <sub>J</sub> =125°C		–	–	50	
Junction capacitance	4V, 1MHz		C <sub>J</sub>	–	12	–	pF

Notes: 1. Pulse test: 300 μs pulse width, 1% duty cycle. 2. Pulse test: pulse width ≤ 40ms

**THERMAL CHARACTERISTICS**

Parameter	Symbol	SMB	Unit
Typical thermal resistance <sup>3)</sup>	R <sub>θJA</sub>	70.0	°C/W
	R <sub>θJL</sub>	25.0	

3. P. C. B. mounted with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

**AVAILABALE PACK INFORMATION**

Product code	Pack	Reel Size (mm)	Quantity (pcs/reel)	Box Size L×W×H (mm)	Quantity (reel/box)	Carton Size L×W×H (mm)	Quantity (box/carton)	Quantity (K/carton)
KWS2MB-V-SMB	T/R	Φ 330	3000	330×333×39	2	370×370×360	8	48

## RATINGS AND CHARACTERISTIC OF KWS2MB-V

FIG. 1-FORWARD CURRENT DERATING CURVE

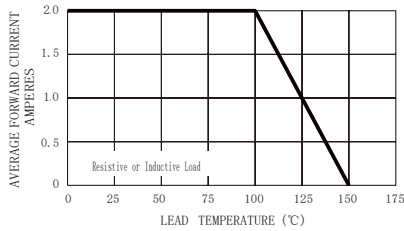


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

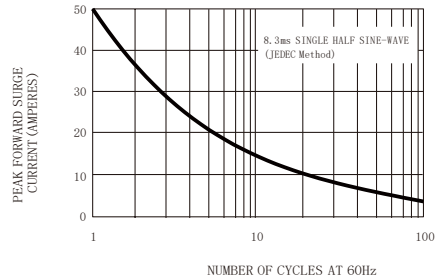


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

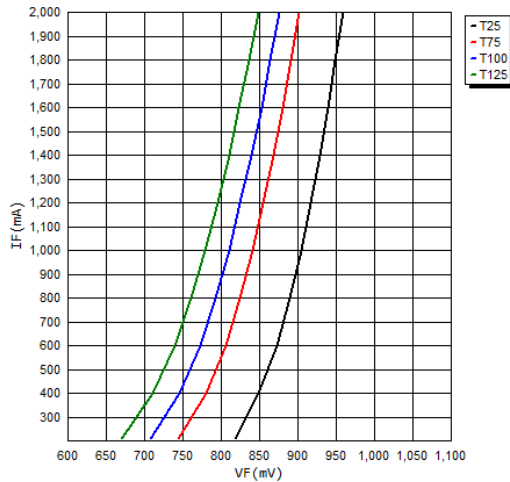


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

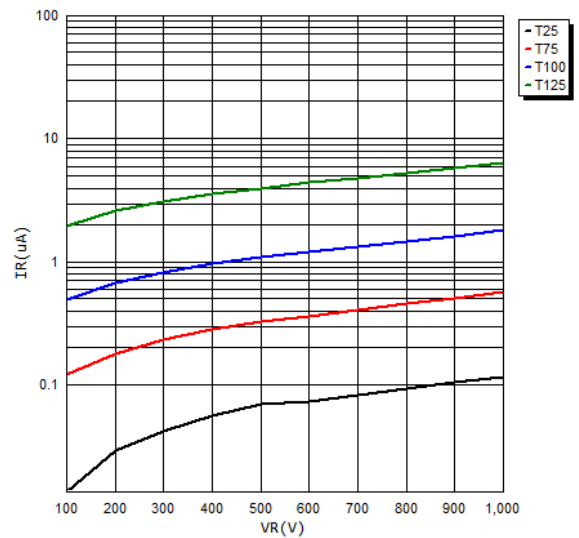
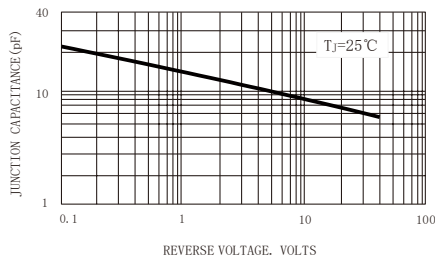
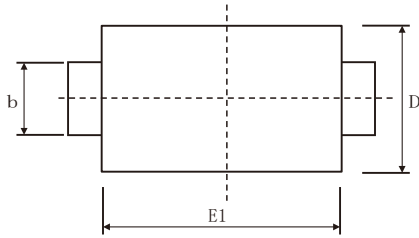


FIG. 5-TYPICAL JUNCTION CAPACITANCE

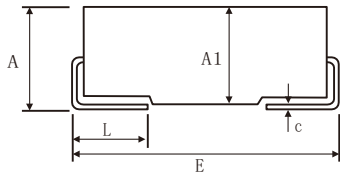


## PACKAGE OUTLINE DIMENSIONS

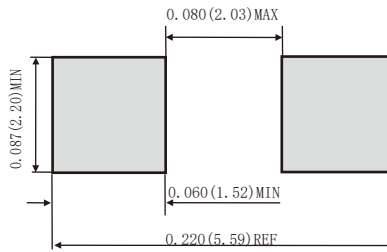
### SMB (DO-214AA)



Sym	Value (millimeters)		
	Min	Typ	Max
A	2.13	—	2.44
A1	1.90	—	2.24
b	1.80	—	2.20
c	0.10	—	0.305
D	3.30	—	3.94
E	5.00	—	5.59
E1	4.06	—	4.90
L	0.76	—	1.52



### SMB Suggested PAD Layout



Dimensions in inches and (millimeters)