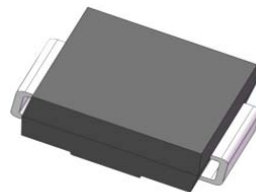


## Features

- Low forward voltage drop
- Ultra-fast recovery time max 50ns
- Low Qrr and Irm reduces switching losses
- Moisture sensitivity: level 1, per J-STD-020
- Especially suited as boost diode in power factor correctors
- Qualified by AEC-Q101 standard



SMB(DO-214AA)

## Typical Applications

These diodes series are designed especially for use in Power Factor Correction applications as boost diode. Ideally suited for high voltage, high frequency rectification in car inverters, lighting, cellular phone, portable device, power supplies and other consumer applications.

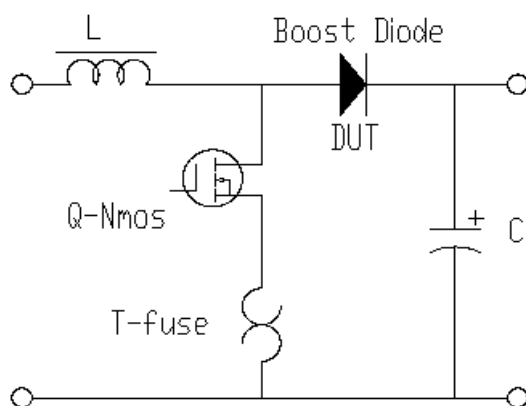
Maximum Ratings (TA = 25 °C unless otherwise noted)				
Parameter	Symbol	SMB340U	SMB360U	Unit
Maximum repetitive peak reverse voltage	VRRM	400	600	V
Maximum RMS voltage	VRMS	280	420	V
Maximum DC blocking voltage	VDC	400	600	V
Maximum average forward rectified current	IF(AV)	3.0		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	IFSM	125		A
Operating junction and storage temperature range	TJ, TSTG	- 55 to + 150		°C

Electrical Characteristics (TA = 25 °C unless otherwise noted)					
Parameter	Test Conditions	Symbol	SMB340U	SMB360U	Unit
Maximum instantaneous forward voltage	3 A	VF	1.1	1.7	Volts
Maximum DC reverse current at rated DC blocking voltage	TA=25°C	IR	10		µA
	TA=125°C		300		
Maximum reverse recovery time	IF=0.5A, IR=1.0A, I <sub>rr</sub> =0.25A, (RG-1)	t <sub>rr</sub>	50	35	nS
Reverse Recovery time	IF=3A, di/dt=-80A/us, VR=400V, Tj=25°C	t <sub>rr</sub>	-	-	nS
Reverse Recovery current		I <sub>rm</sub>	-	-	A
Reverse Recovery charges		Q <sub>rr</sub>	-	-	nC
Softness recovery factor		S <sub>factor</sub>	-	-	-
Typical junction capacitance	4.0 V, 1 MHz	CJ	32		pF

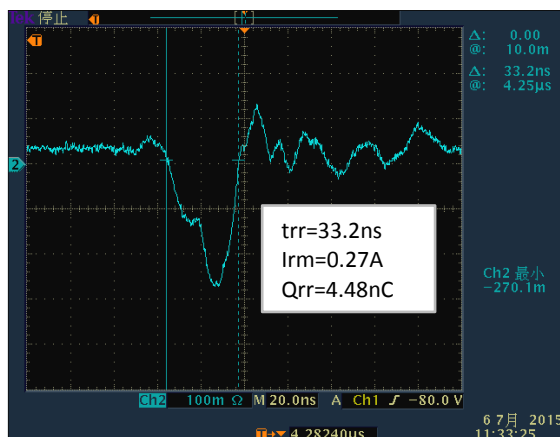
Thermal Characteristics (TA = 25 °C unless otherwise noted)				
Typical thermal resistance <sup>1)</sup>	junction to mount	$R_{\theta JM}$	15	°C/W
	junction to ambient	$R_{\theta JA}$	45	°C/W

Notes 1): The thermal resistance from junction to ambient or mount, Mounted on P.C.B with 30\*30mm copper pad area

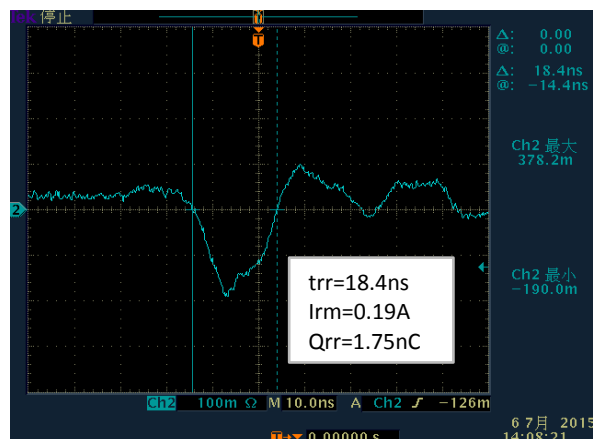
## Test Circuit and Current Waveform



Typical APFC test circuit



Measure condition: APFC topology, DUT=SMB340U



Measure condition: APFC topology, DUT=SMB340U+SMB340U



# SMB340U thru SMB360U

Ultra fast Boost Rectifier

Reverse Voltage 400~600V Forward Current 3A

## Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

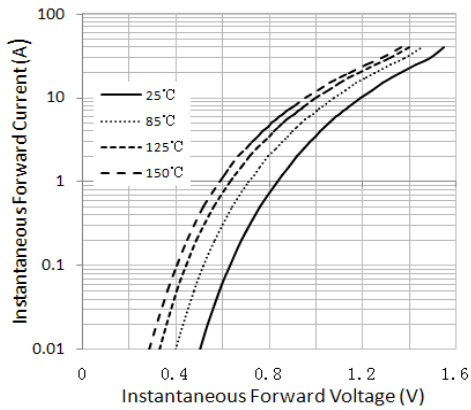


Figure 1. Typical Instantaneous Forward Characteristics

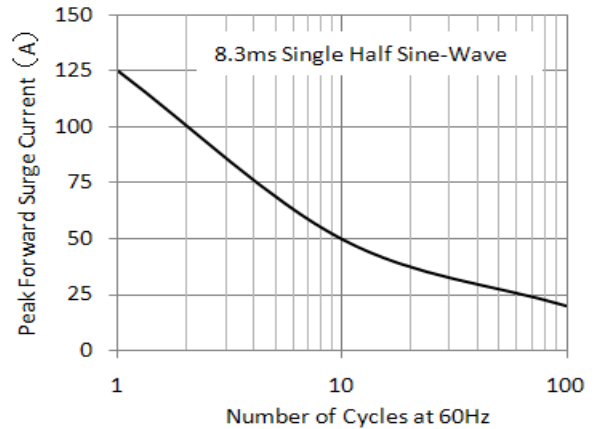


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

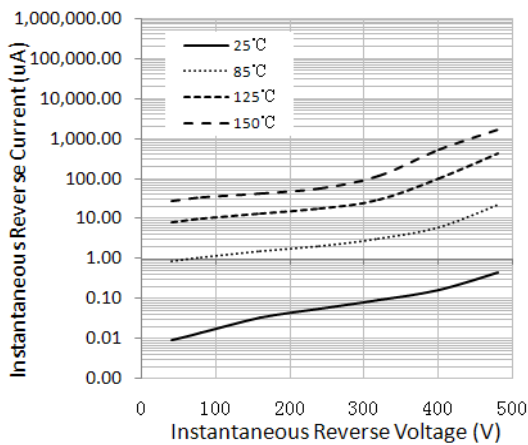


Figure 3. Typical Instantaneous Reverse Characteristics

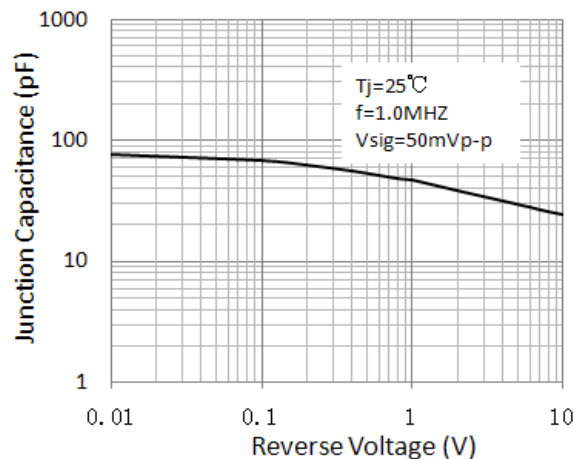


Figure 4. Typical Junction Capacitance

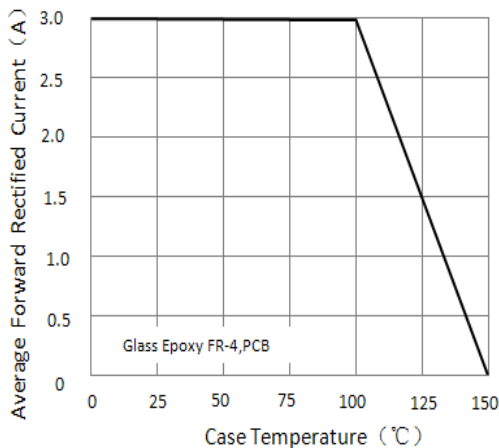


Figure 5. Forward Current Derating Curve



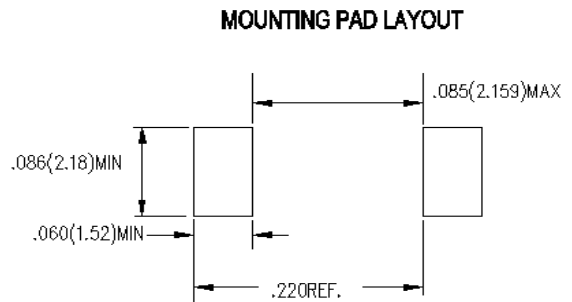
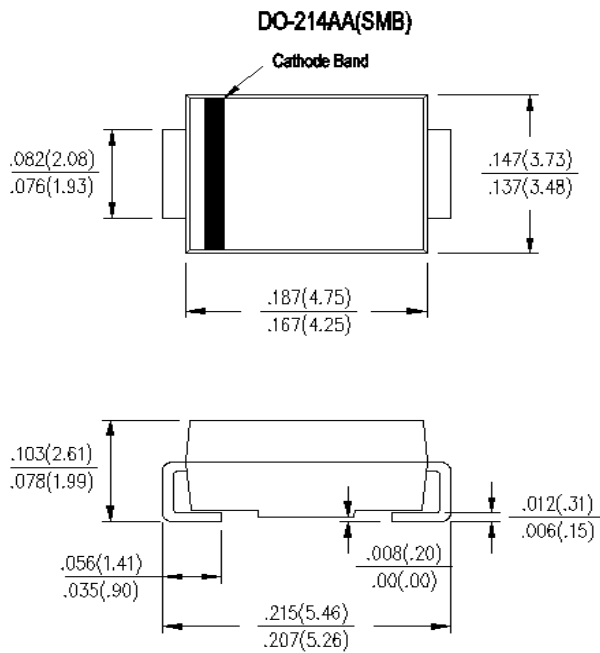
# SMB340U thru SMB360U

Ultra fast Boost Rectifier

Reverse Voltage 400~600V Forward Current 3A

## Package Outline Dimensions

in inches (millimeters)





# **SMB340U thru SMB360U**

Ultra fast Boost Rectifier

Reverse Voltage 400~600V Forward Current 3A

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