



# BYM13-20 thru BYM13-60, SGL41-20 thru SGL41-60

Vishay Semiconductors  
formerly General Semiconductor



## Surface Mount Schottky Rectifier

Reverse Voltage 20 to 60V  
Forward Current 1.0A

DO-213AB

### Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Low power loss, high efficiency
- For use in low voltage high frequency inverters, free wheeling, and polarity protection applications
- Guardring for overvoltage protection
- High temperature soldering guaranteed: 250°C/10 seconds at terminals

### Mechanical Data

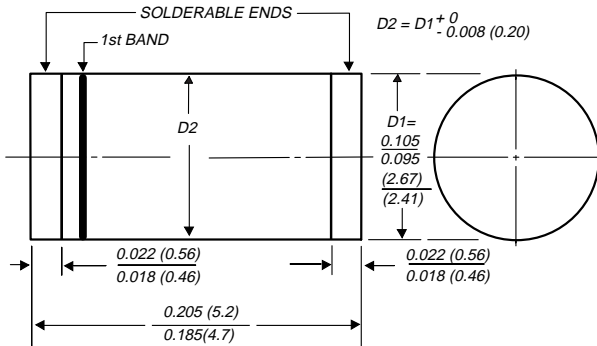
**Case:** JEDEC DO-213AB molded plastic body

**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Two bands indicate cathode end 1st band denotes device type 2nd band denotes voltage type

**Mounting Position:** Any

**Weight:** 0.0041 ounce, 0.116 gram



1st band denotes type and positive end (cathode)

Dimensions in inches and (millimeters)

### Maximum Ratings and Thermal Characteristics (T<sub>A</sub> = 25°C unless otherwise noted)

Parameter	Symbol	BYM13-20	BYM13-30	BYM13-40	BYM13-50	BYM13-60	Unit
		SGL41-20	SGL41-30	SGL41-40	SGL41-50	SGL41-60	
Denotes Schottky devices: 1st band is orange							
Polarity color bands (2nd band) voltage type		Gray	Red	Orange	Yellow	Green	
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	20	30	40	50	60	V
Maximum RMS voltage	V <sub>RMS</sub>	14	21	28	35	42	V
Maximum DC blocking voltage	V <sub>DC</sub>	20	30	40	50	60	V
Maximum average forward rectified current (SEE FIG. 1)	I <sub>F(AV)</sub>	1.0					A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	30					A
Maximum thermal resistance	R <sub>θJA</sub> R <sub>θJT</sub>	75 <sup>(2)</sup> 30 <sup>(3)</sup>					°C/W
Operating junction temperature range	T <sub>J</sub>	-55 to +125			-55 to +150		°C
Storage temperature range	T <sub>STG</sub>	-55 to +150					°C

### Electrical Characteristics (T<sub>A</sub> = 25°C unless otherwise noted)

Parameter	Symbol	SGL41-20	SGL41-30	SGL41-40	SGL41-50	SGL41-60	Unit
		BYM13-20	BYM13-30	BYM13-40	BYM13-50	BYM13-60	
Maximum instantaneous forward voltage at 1.0A <sup>(1)</sup>	V <sub>F</sub>	0.50			0.70		V
Maximum reverse current at rated DC blocking voltage <sup>(1)</sup>	I <sub>R</sub>	0.5					mA
		10			5.0		
Typical junction capacitance at 4.0V, 1.0MHz	C <sub>J</sub>	110			80		pF

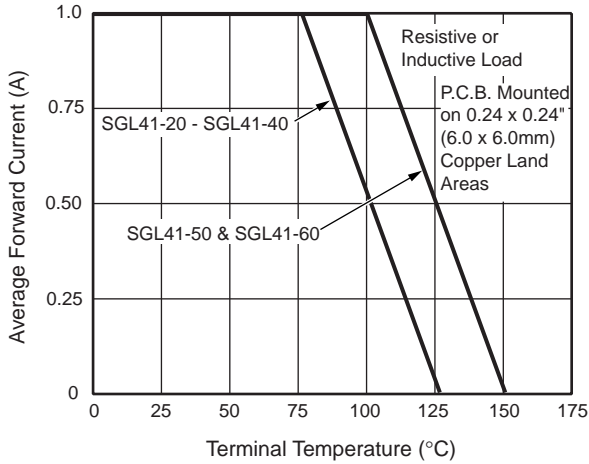
**NOTES:** (1) Pulse test: 300µs pulse width, 1% duty cycle  
 (2) Thermal resistance junction to terminal, 0.24 x 0.24" (6.0 x 6.0mm) copper pads to each terminal  
 (3) Thermal resistance junction to ambient, 0.24 x 0.24" (6.0 x 6.0mm) copper pads to each terminal



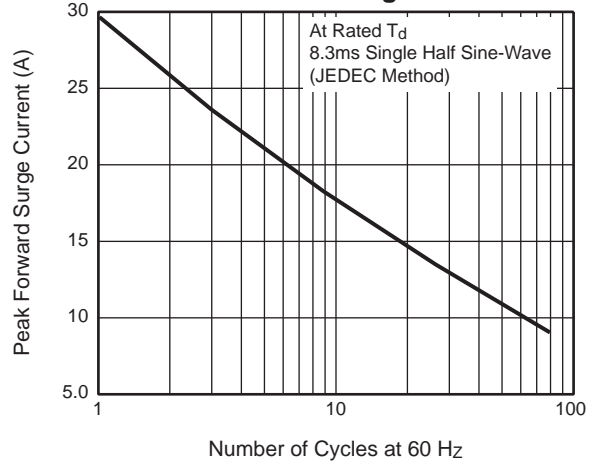
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## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

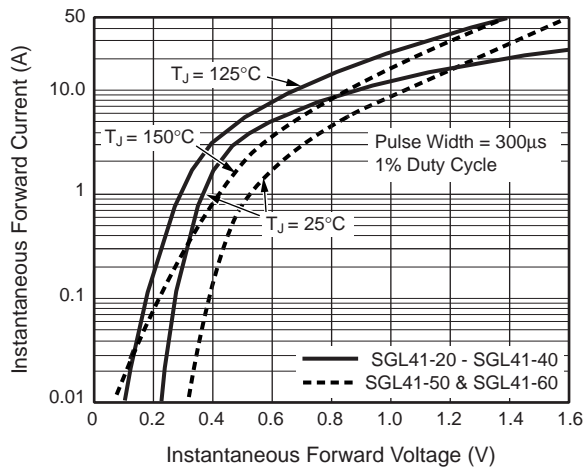
**Fig. 1 – Forward Current Derating Curve**



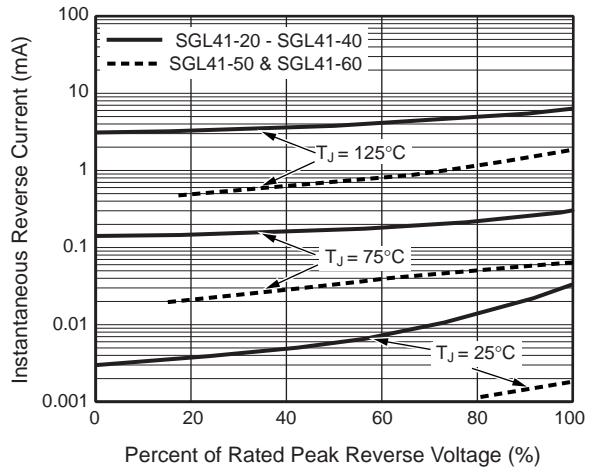
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



**Fig. 3 – Typical Instantaneous Forward Characteristics**



**Fig. 4 – Typical Reverse Characteristics**



**Fig. 5 – Typical Junction Capacitance**

