

Vishay General Semiconductor

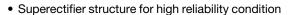
Glass Passivated Junction Fast Switching Rectifier



DO-204AL (DO-41)

PRIMARY CHARACTERISTICS				
I _{F(AV)}	0.5 A			
V _{RRM}	1400 V, 1600 V			
I _{FSM}	20 A			
t _{rr}	500 ns			
I _R	5.0 μA			
T _J max.	175 °C			

FEATURES





- · Cavity-free glass-passivated junction
- 24 mils lead wire diameter
- · Fast switching for high efficiency
- Low leakage current
- Meets environmental standard MIL-S-19500
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- AEC-Q101 qualified
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC

TYPICAL APPLICATIONS

- · High voltage rectification
- Snubber circuit of camera flash
- Snubber circuit of automotive ignition module

MECHANICAL DATA

Case: DO-204AL, molded epoxy over glass body Molding compound meets UL 94 V-0 flammability rating Base P/N-E3 - RoHS compliant, commercial grade Base P/NHE3 - RoHS compliant, AEC-Q101 qualified

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test, HE3 suffix meets JESD 201 class 2 whisker test

Polarity: Color band denotes cathode end

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	BY520-14E	BY520-16E	UNIT	
Maximum repetitive peak reverse voltage	V_{RRM}	V _{RRM} 1400 1600			
Maximum RMS voltage	V _{RMS} 980 1120		V		
Maximum DC blocking voltage	V _{DC}	1400 1600		V	
Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_A = 55~^{\circ}\text{C}$	I _{F(AV)}	0.5		А	
Peak forward surge current 10 ms single half sine-wave superimposed on rated	I _{FSM}	20		А	
Operating junction and storage temperature range	T _J , T _{STG}	- 65 to + 175		°C	

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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)						
PARAMETER	TEST CO	NDITIONS	SYMBOL	BY520-14E BY520-16E		UNIT
Maximum instantaneous forward voltage	I _F = 0.5 A	T _A = 25 °C	V _F ⁽¹⁾	2.4		V
Maximum reverse current	VD = VDDM	T _A = 25 °C	I _R ⁽²⁾	5.0		μΑ
		T _A = 125 °C	50		μΛ	
Maximum reverse recovery time	$I_F = 0.5 \text{ A}, I_R = I_{rr} = 0.25 \text{ A}$	= 1.0 A,	t _{rr}	500		ns

Notes

 $^{(1)}\,$ Pulse test: 300 μs pulse width, 1 % duty cycle

(2) Pulse test: Pulse width ≤ 40 ms

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	BY520-14E	BY520-16E	UNIT	
Typical the word vaciation as	R ₀ JA ⁽¹⁾	65		°C/W	
Typical thermal resistance	R _{0JL} (1)	30			

Note

(1) Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5 mm) lead length, P.C.B. mounted

ORDERING INFORMATION (Example)					
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE	
BY520-14E-E3/54	0.24	54	5500	13" diameter paper tape and reel	
BY520-14EHE3/54 (1)	0.24	54	5500	13" diameter paper tape and reel	

Note

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

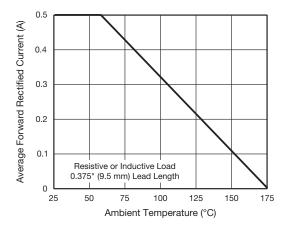


Fig. 1 - Forward Current Derating Curve

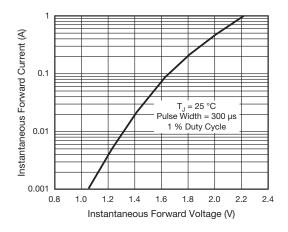


Fig. 2 - Typical Instantaneous Forward Characteristics

⁽¹⁾ AEC-Q101 qualified



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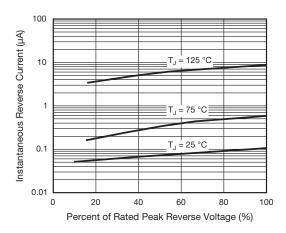


Fig. 3 - Typical Reverse Characteristics

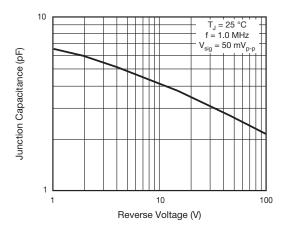
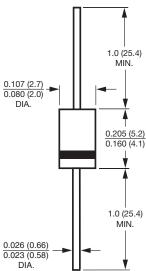


Fig. 4 - Typical Junction Capacitance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-204AL (DO-41)





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Офис по работе с юридическими лицами:

105318, г. Москва, ул. Щербаковская д. 3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru moschip.ru_6 moschip.ru 4 moschip.ru 9