

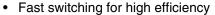
Vishay General Semiconductor

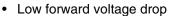
Fast Switching Plastic Rectifier



MAJOR RATINGS AND CHARACTERISTICS						
I _{F(AV)}	1.0 A					
V _{RRM}	400 V to 1000 V					
I _{FSM}	20 A					
t _{rr}	150 ns, 250 ns, 500 ns					
I _R	5.0 μΑ					
V _F	1.3 V					
T _i max.	125 °C					

FEATURES





- Low leakage current
- High forward surge capability
- Solder Dip 260 °C, 40 seconds
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

TYPICAL APPLICATIONS

For use in fast switching rectification of power supply, inverters, converters and free-wheeling diodes for consumer and telecommunication.

(Note: These devices are not Q101 qualified. Therefore, the devices specified in this datasheet have not been designed for use in automotive or Hi-Rel applications.)

MECHANICAL DATA

Case: DO-204AL, molded epoxy body Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated (E3 Suffix) leads, solderable per J-STD-002B and JESD22-B102D **Polarity:** Color band denotes cathode end

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	BA157	BA158	BA159D	BA159	UNIT
Maximum repetitive peak reverse voltage	V _{RRM}	400	600	800	1000	V
Maximum RMS voltage	V _{RMS}	280	420	560	700	V
Maximum DC blocking voltage	V _{DC}	400	600	800	1000	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at T _A = 55 °C	I _{F(AV)}	1.0				Α
Peak forward surge current 10 ms single half sine-wave superimposed on rated load	I _{FSM}	20			Α	
Maximum operation junction temperature	T_J	- 65 to + 125			°C	
Maximum storage temperature	T _{STG}	- 65 to + 150				°C

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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)							
PARAMETER	TEST CONDITIONS	SYMBOL	BA157	BA158	BA159D	BA159	UNIT
Maximum instantaneous forward voltage	at 1.0 A	V _F	1.3			V	
Maximum DC reverse current at rated DC blocking voltage	T _A = 25 °C	I _R	5.0			μΑ	
Maximum reverse recovery time	at $I_F = 0.5 \text{ A}$, $I_R = 1.0 \text{ A}$, $I_{rr} = 0.25 \text{ A}$	t _{rr}	150 250 500		00	ns	
Typical junction capacitance	at 4.0 V, 1 MHz	CJ	12			pF	

ORDERING INFORMATION					
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE	
BA158-E3/54	0.33	54	5500	13" Diameter Paper Tape & Reel	
BA158-E3/73	0.33	73	3000	Ammo Pack Packaging	

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

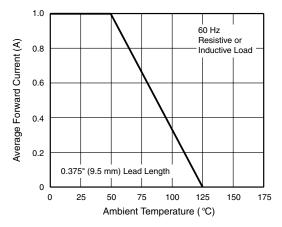


Figure 1. Forward Current Derating Curve

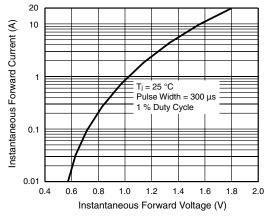


Figure 3. Typical Instantaneous Forward Characteristics

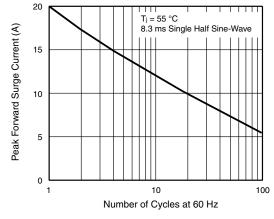


Figure 2. Maximum Non-repetitive Peak Forward Surge Current

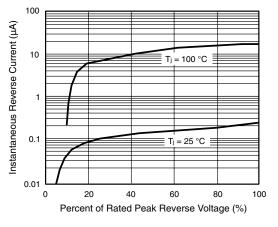


Figure 4. Typical Reverse Characteristics



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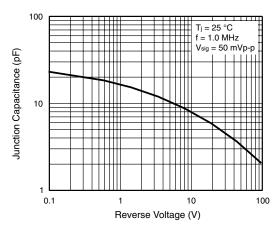


Figure 5. Typical Junction Capacitance

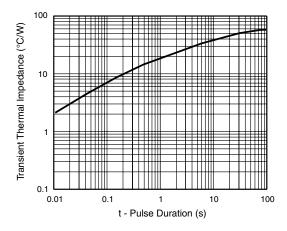
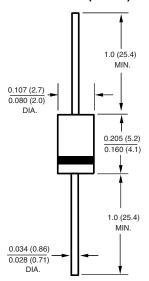


Figure 6. Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-204AL (DO-41)



NOTE: Lead diameter is $\frac{0.026~(0.66)}{0.023~(0.58)}$ for suffix "E" part numbers

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