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# Vishay Semiconductors

# **Small Signal Schottky Diode**



#### **LINKS TO ADDITIONAL RESOURCES**



#### **MECHANICAL DATA**

Case: MicroSMF (DO-219AC)

Weight: 4.8 mg

#### **FEATURES**

- AEC-Q101 qualified available
- Base P/N-G3 RoHS-compliant, green, industrial grade
- Base P/N-HG3 RoHS-compliant, green, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishav.com/doc?99912





ROHS
COMPLIANT
HALOGEN
FREE
GREEN

PARTS TABLE							
PART	ORDERING CODE	AEC-Q101 QUALIFIED	CIRCUIT CONFIGURATION	TYPE MARKING	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY	
BAT165	BAT165-G3/H	no	Single	165	4500 per 7" reel (8 mm tape)	22 500/box	
	BAT165-HG3/H	yes	Single		4500 per 7 Teer (6 min tape)		

ABSOLUTE MAXIMUM RATINGS (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT		
Reverse voltage		V <sub>R</sub>	40	V		
Forward continuous current (1)		I <sub>F</sub>	750	mA		
Average rectified forward current (1)		I <sub>F(AV)</sub>	500	mA		
Surge forward current (1)	t <sub>p</sub> < 10 ms	I <sub>FSM</sub>	2.5	Α		
Power dissipation	On FR-4 board with recommended footprint for reflow soldering	P <sub>tot</sub>	290	mW		
•	On FR-4 board with 20 mm x 20 mm footprint	P <sub>tot</sub>	740	mW		

#### Note

<sup>(1)</sup> Valid provided that electrodes are kept at ambient temperature

THERMAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT		
The word variation as it mation to emplicat air	On FR-4 board acc. JEDEC® 51-3 with recommended footprint for reflow soldering	R <sub>thJA</sub>	430	K/W		
Thermal resistance junction to ambient air	On FR-4 board acc. JEDEC® 51-3 with 20 mm x 20 mm footprint	R <sub>thJA</sub>	170	K/W		
Thermal resistance junction to lead		R <sub>thJL</sub>	45	K/W		
Junction temperature		Tj	150	°C		
Operating temperature range		T <sub>op</sub>	-55 to +150	°C		
Storage temperature range		T <sub>stg</sub>	-55 to +150	°C		

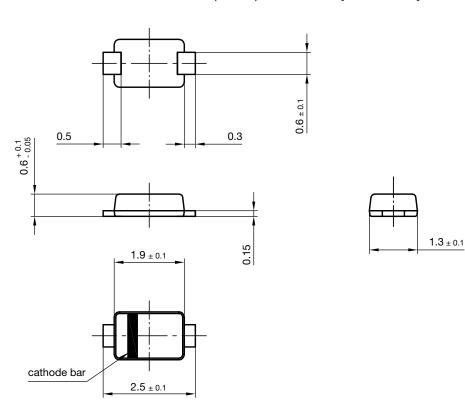


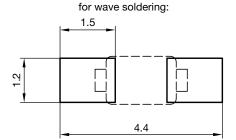
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<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	I <sub>R</sub> = 100 μA (pulsed)	V <sub>(BR)</sub>	40			V
Leakage current (1)	V <sub>R</sub> = 40 V	I <sub>R</sub>			8	μΑ
Leakage current (1)	$V_R = 40 \text{ V}, T_j = 65 ^{\circ}\text{C}$	I <sub>R</sub>			900	μΑ
	I <sub>F</sub> = 10 mA	V <sub>F</sub>	230	315	380	mV
Forward voltage (1)	I <sub>F</sub> = 100 mA	$V_{F}$	320	390	470	mV
Forward voltage (*)	$I_F = 250 \text{ mA}$	$V_{F}$	350	440	540	mV
	I <sub>F</sub> = 750 mA	V <sub>F</sub>	440	580	740	mV
Diode capacitance	V <sub>R</sub> = 10 V, f = 1 MHz	C <sub>D</sub>		8.4	12	pF

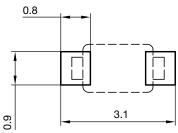
## PACKAGE DIMENSIONS in millimeters (inches): MicroSMF (DO-219AC)





foot print recommendation

foot print recommendation for reflow soldering:



22741

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 $<sup>\</sup>overline{\mbox{Note}} \begin{tabular}{ll} \hline \mbox{Note} \\ \mbox{(1)} & \mbox{Pulse test; } t_p \leq 300 \ \mu \mbox{s, } t_p \slash T < 0.02 \\ \end{tabular}$ 



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