

## Small Signal Schottky Diode



### 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.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



### LINKS TO ADDITIONAL RESOURCES



### MECHANICAL DATA

**Case:** MicroSMF (DO-219AC)

**Weight:** 4.8 mg

### 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				

### ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		$V_R$	40	V
Forward continuous current <sup>(1)</sup>		$I_F$	750	mA
Average rectified forward current <sup>(1)</sup>		$I_{F(AV)}$	500	mA
Surge forward current <sup>(1)</sup>	$t_p < 10\text{ ms}$	$I_{FSM}$	2.5	A
Power dissipation	On FR-4 board with recommended footprint for reflow soldering	$P_{tot}$	290	mW
	On FR-4 board with 20 mm x 20 mm footprint	$P_{tot}$	740	mW

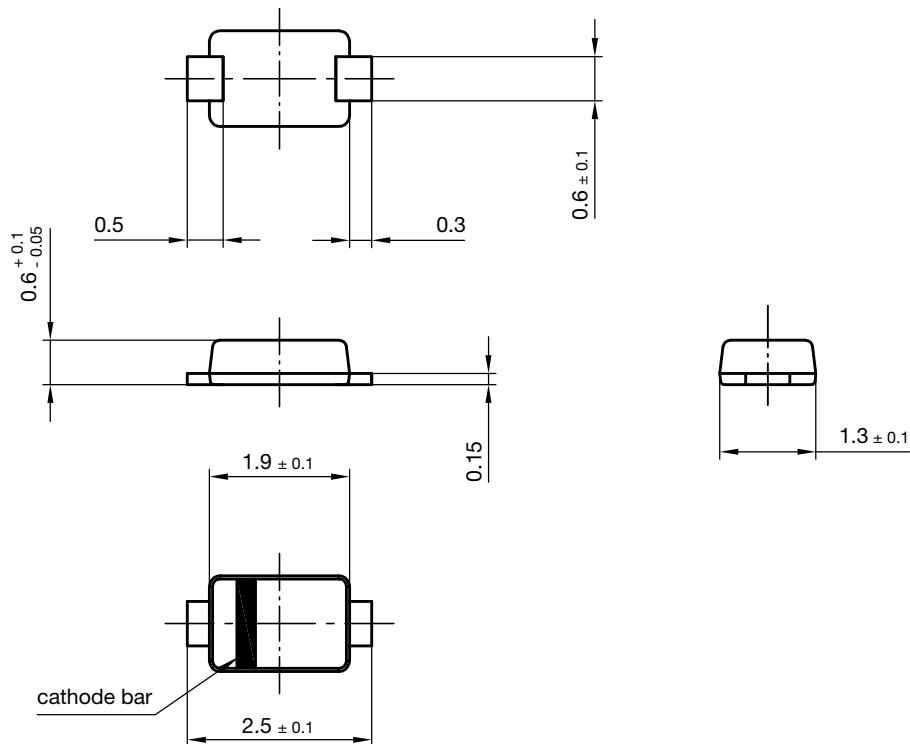
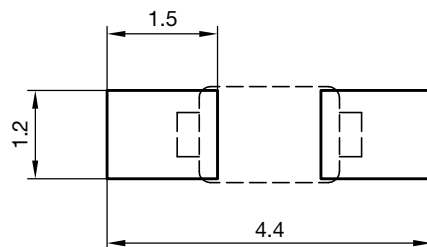
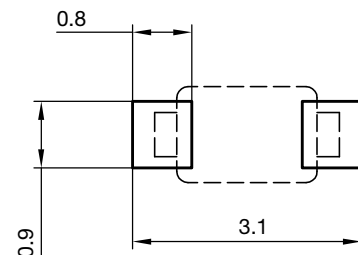
#### Note

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

### THERMAL CHARACTERISTICS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air	On FR-4 board acc. JEDEC <sup>®</sup> 51-3 with recommended footprint for reflow soldering	$R_{thJA}$	430	K/W
	On FR-4 board acc. JEDEC <sup>®</sup> 51-3 with 20 mm x 20 mm footprint	$R_{thJA}$	170	K/W
Thermal resistance junction to lead		$R_{thJL}$	45	K/W
Junction temperature		$T_j$	150	$^{\circ}\text{C}$
Operating temperature range		$T_{op}$	-55 to +150	$^{\circ}\text{C}$
Storage temperature range		$T_{stg}$	-55 to +150	$^{\circ}\text{C}$

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

**Note**
<sup>(1)</sup> Pulse test;  $t_p \leq 300\text{ }\mu\text{s}$ ,  $t_p/T < 0.02$ 
**PACKAGE DIMENSIONS** in millimeters (inches): **MicroSMF (DO-219AC)**

 foot print recommendation  
for wave soldering:

 foot print recommendation  
for reflow soldering:

 22741  
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