

## Small Signal Schottky Diode



### FEATURES

- For general purpose applications
- This diode features low turn-on voltage and high breakdown voltage. This device is protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges
- This diode is also available in a MiniMELF case with type designation LL41
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**

### MECHANICAL DATA

**Case:** DO-35

**Weight:** approx. 125 mg

**Cathode Band Color:** black

**Packaging Codes/Options:**

TR/10K per 13" reel (52 mm tape), 50K/box

TAP/10K per ammpack (52 mm tape), 50K/box

### PARTS TABLE

PART	ORDERING CODE	INTERNAL CONSTRUCTION	TYPE MARKING	REMARKS
BAT41	BAT41-TR or BAT41-TAP	Single diode	BAT41	Tape and reel/ammpack

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		$V_{RRM}$	100	V
Forward continuous current <sup>(1)</sup>		$I_F$	100	mA
Repetitive peak forward current <sup>(1)</sup>	$t_p < 1\text{ s}, \delta < 0.5$	$I_{FRM}$	350	mA
Surge forward current <sup>(1)</sup>	$t_p = 10\text{ ms}$	$I_{FSM}$	750	mA
Power dissipation <sup>(1)</sup>	$T_{amb} = 65\text{ }^{\circ}\text{C}$	$P_{tot}$	200	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	Valid provided that electrodes are kept at ambient temperature	$R_{thJA}$	300	K/W
Junction temperature		$T_j$	125	$^{\circ}\text{C}$
Ambient operating temperature range		$T_{amb}$	- 65 to + 125	$^{\circ}\text{C}$
Storage temperature range		$T_{stg}$	- 65 to + 150	$^{\circ}\text{C}$

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

PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage <sup>(1)</sup>	$I_R = 100\text{ }\mu\text{A}$	$V_{(BR)}$	100	110		V
Leakage current <sup>(1)</sup>	$V_R = 50\text{ V}, T_j = 25\text{ }^{\circ}\text{C}$	$I_R$			100	nA
	$V_R = 50\text{ V}, T_j = 100\text{ }^{\circ}\text{C}$	$I_R$			20	$\mu\text{A}$
Forward voltage <sup>(1)</sup>	$I_F = 1\text{ mA}$	$V_F$		400	450	mV
	$I_F = 200\text{ mA}$	$V_F$			1000	mV
Diode capacitance	$V_R = 1\text{ V}, f = 1\text{ MHz}$	$C_D$		2		pF

#### Note

<sup>(1)</sup> Pulse test,  $t_p = 300\text{ }\mu\text{s}$

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

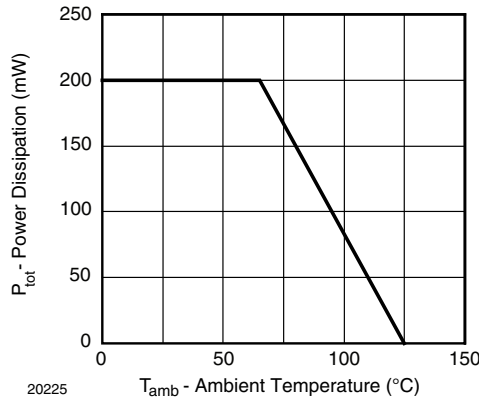


Fig. 1 - Admissible Power Dissipation vs. Ambient Temperature

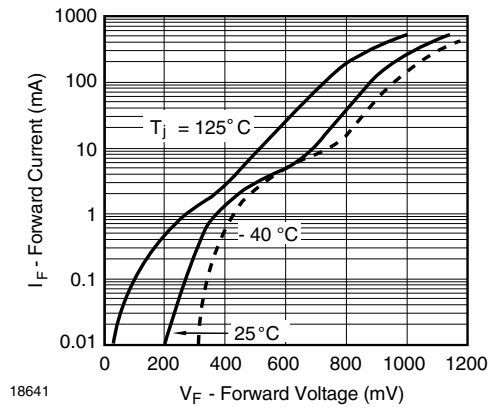


Fig. 3 - Typical Forward Characteristics

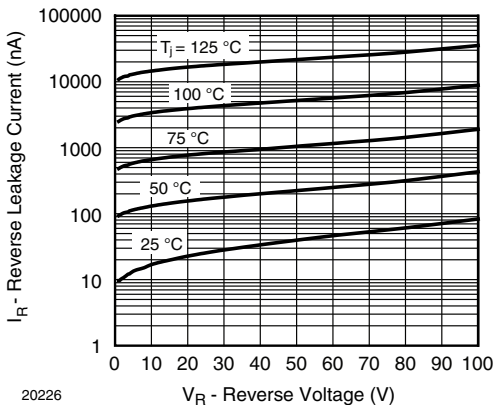


Fig. 2 - Typical Reverse Characteristics

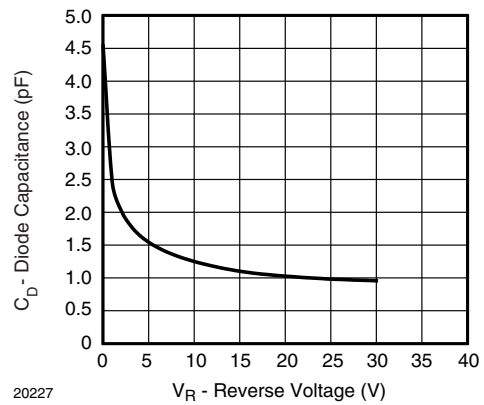
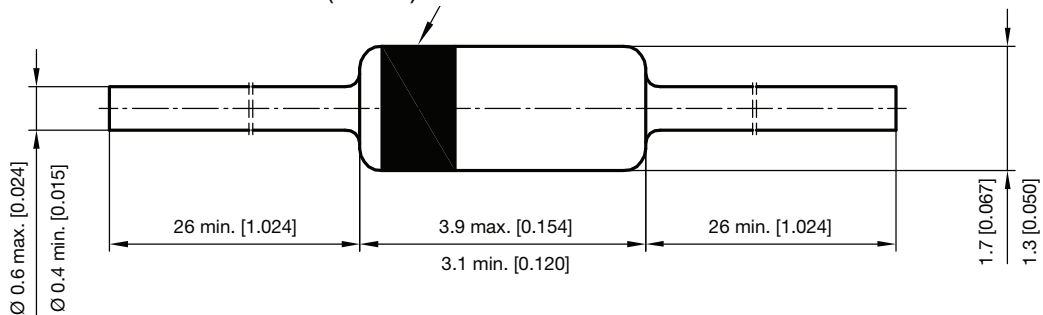


Fig. 4 - Typical Capacitance vs. Reverse Voltage

**PACKAGE DIMENSIONS** in millimeters (inches): **DO-35**



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