



BAT42 and BAT43

Small-Signal Diode
Schottky Diodes

Features

- ◆ For general purpose applications.
- ◆ These diodes feature very low turn-on voltage and fast switching. These devices are protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges
- ◆ This diode is also available in the MiniMELF case with type designation LL42 to LL43.

Mechanical Data

- ◆ Case: DO-35 Glass Case
- ◆ Weight: approx. 0.13g

Maximum Ratings and Thermal Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified.)

| Parameter | Symbol | Value | Unit |
|------------------------------------------------------------------------------|-----------------|--------------------|---------------|
| Repetitive peak reverse voltage | V_{RRM} | 30 | Volts |
| Forward continuous current at $T_{amb}=25^{\circ}C$ | I_F | 200 ⁽¹⁾ | mA |
| Repetitive peak forward Current at $t_p<1s, \delta<0.5, T_{amb}=25^{\circ}C$ | I_{FRM} | 500 ⁽¹⁾ | mA |
| Surge forward current at $t_p<10ms, T_{amb}=25^{\circ}C$ | I_{FSM} | 4 ⁽¹⁾ | Amps |
| Power dissipation ⁽¹⁾ at $T_{amb}=65^{\circ}C$ | P_{tot} | 200 ⁽¹⁾ | mW |
| Thermal resistance junction to ambient air | $R_{\theta JA}$ | 300 ⁽¹⁾ | $^{\circ}C/W$ |
| Junction temperature | T_J | 125 | $^{\circ}C$ |
| Ambient operating temperature range | T_{amb} | -65 to +125 | $^{\circ}C$ |
| Storage temperature range | T_S | -65 to +150 | $^{\circ}C$ |

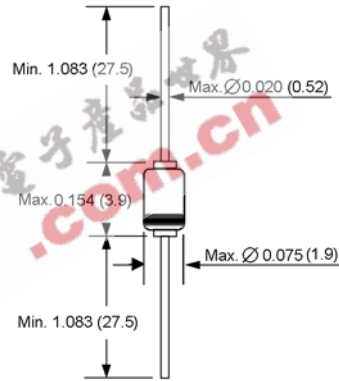
Electrical Characteristics

($T_J=25^{\circ}C$ unless otherwise noted.)

| Parameter | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|----------------------------------------------------------|-------------|--------------------------------------------------------------------|--------------------------|-----------------------|-------------------------------------|---------|
| Reverse breakdown voltage | $V_{(BR)R}$ | $I_R=100\mu A$ (pulsed) | 30 | - | - | Volts |
| Leakage current pulse test $t_p<300\mu s, \delta<2\%$ | I_R | $V_R=25V$ $V_R=25V, T_J=100^{\circ}C$ | - | - | 0.5 100 | μA |
| Forward voltage pulse test $t_p<300\mu s, \delta<2\%$ | V_F | $I_F=200mA$ $I_F=10mA$ $I_F=50mA$ $I_F=2mA$ $I_F=15mA$ | - - - 0.26 - | - - - - - | 1.0 0.40 0.65 0.33 0.45 | Volt |
| Capacitance | C_{tot} | $V_R=1V, f=1MHz$ | - | 7 | - | pF |
| Reverse recovery time | t_{rr} | $I_F=10mA, I_R=10mA$ $I_F=1mA, R_L=100\Omega$ | - | - | 5 | ns |
| Detection efficiency | η_v | $R_L=15K\Omega, C_L=300pF$ $f=45MHz, V_{RF}=2V$ | 80 | - | - | % |

Notes: 1. Valid provided that leads at a distance of 4mm from case are kept at ambient temperature.

DO-204AH (DO-35 Glass)



Dimensions in inches and (millimeters)

