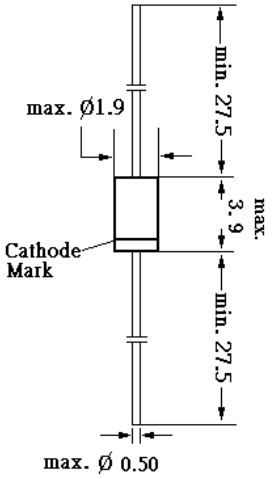
BAT42, BAT43

SCHOTTKY DIODES



Glass case JEDEC DO-35
Dimensions in mm

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 electro-static discharges
- These diodes are also available in the SOD-123 case with the type designations BAT42W to BAT43W and in designations LL42 to LL43.

Mechanical Data

- Case: DO-35 Glass Case

Absolute Maximum Ratings ($T_a = 25^oC$)

Parameter	Symbol	Limits	Unit
Repetitive peak reverse voltage	V_{RRM}	30	V
Forward continuous current at $T_{amb} = 25^oC$	I_F	200(1)	mA
Repetitive peak forward current at tp<1.5s, δ<0.5, $T_{amb} = 25^oC$	I_{FRM}	500(1)	mA
Surge forward current at tp<10ms, $T_{amb} = 25^oC$	I_{FSM}	4(1)	A
Power dissipation (1) at $T_{amb} = 65^oC$	P_{tot}	200(1)	mW
Operating ambient temperature	T_{amb}	-65 to +125	^OC
Junction temperature	T_j	125	^OC
Storage temperature range	T_S	-65 to +150	^OC
Thermal resistance from junction to ambient air	$R_{\theta JA}$	300(1)	$^oC/W$

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

Characteristics at $T_a = 25^oC$

Parameter		Symbol	Min.	Typ.	Max.	Unit
Forward voltage pulse test $t_p<300\mu s$, $\delta<2\%$						
at $I_F = 200mA$	BAT42, 43	V_F	-	-	1000	mV
at $I_F = 10mA$	BAT42	V_F	-	-	400	mV
at $I_F = 50mA$	BAT43	V_F	-	-	650	mV
at $I_F = 2mA$	BAT43	V_F	260	-	330	mV
at $I_F = 15mA$	BAT43	V_F	-	-	450	mV
Leakage current pulse test $t_p<300\mu s$, $\delta<2\%$						
at $V_R = 25V$		I_R	-	-	2	μA
at $V_R = 25V$, $T_j = 100^oC$		I_R	-	-	100	μA
Reverse breakdown voltage at $I_R = 100\mu A$ (pulsed)		$V_{(BR)R}$	30	-	-	V
Diode capacitance at $V_R = 1V$, $f = 1MHz$		C_{tot}	-	7	-	pF
Reverse recovery time at $I_F = 10mA$, $I_R = 10mA$, $I_{rr} = 1mA$ $R_L = 100\Omega$		t_{rr}	-	-	5	ns
Detection efficiency at $R_L = 15K\Omega$, $C_L = 300pF$ $f = 45MHz$, $V_{RF} = 2V$		$\eta\nu$	80	-	-	%

Ratings and Characteristic Curves(T_A=25°C unless otherwise noted)

Fig.1-Admissible Power Dissipation vs.Ambient Temperature

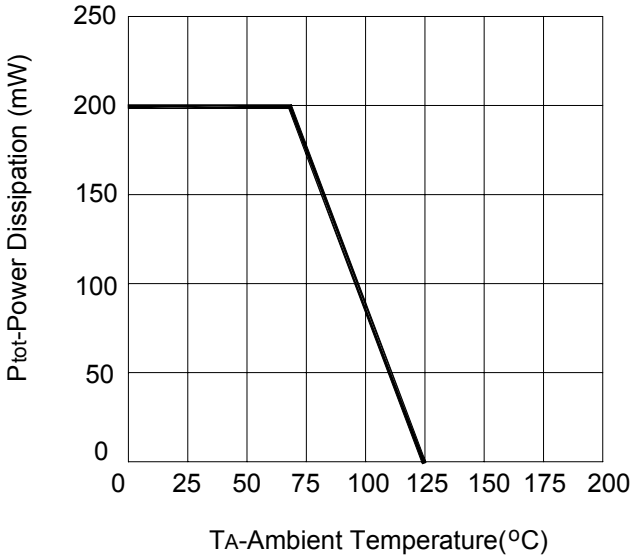


Fig.2-Typical Reverse Characteristics

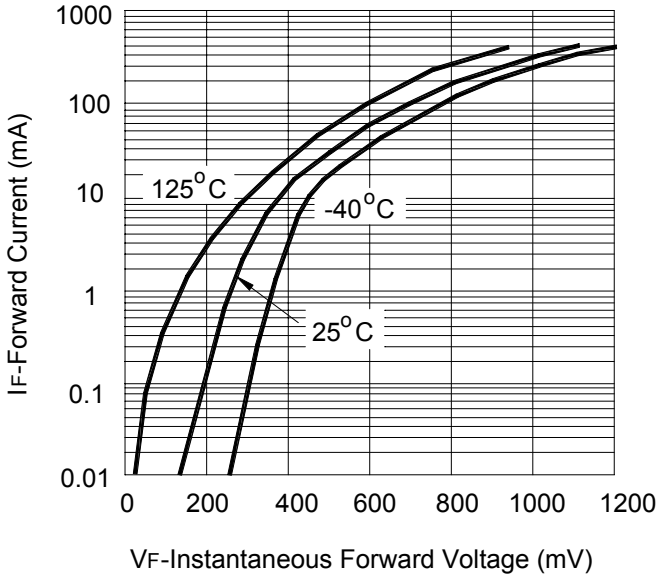


Fig.3-Typical Reverse Characteristics

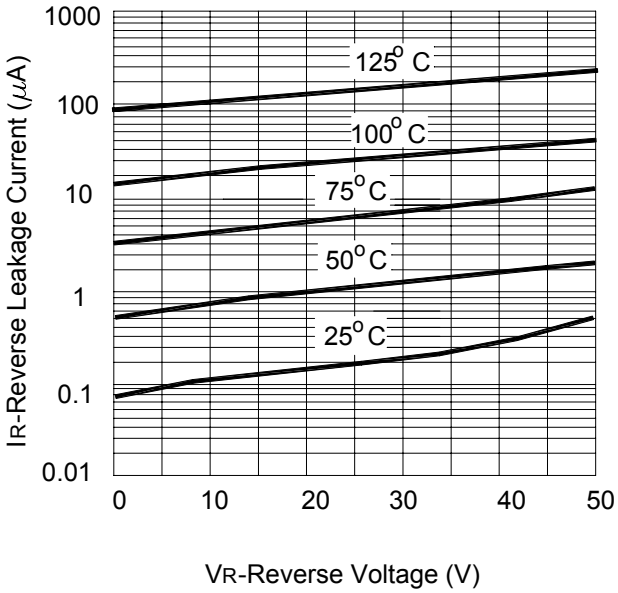


Fig.4-Typical Capacitance vs. Reverse Applied Voltage