

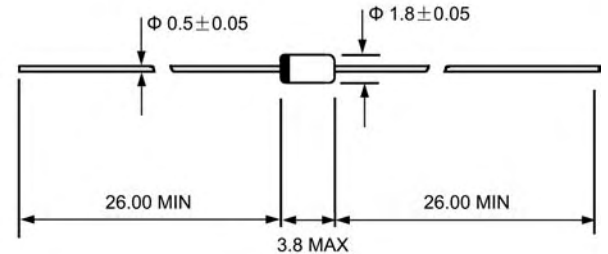
BAT42-BAT43

Small Signal Schottky Diodes

REVERSE VOLTAGE : 30 V

CURRENT: 0.2 A

DO-35(GLASS)



Dimensions in millimeters

Features

- ◇ These diodes feature very low turn-on voltage and fast guard ring against excessive voltage, such as electrostatic discharges
- ◇ 200 mW power dissipation
- ◇ 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
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.004 ounces, 0.13 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

ABSOLUTE MAXIMUM RATINGS

		BAT42	BAT43	UNITS
Repetitive peak reverse voltage	V_{RRM}	30		V
Reverse breakdown voltage $I_R=100\mu A$ (pulsed)	$V_{(BR)}$	30		V
Average forward rectified current half wave rectification with resist.load @ $T_A=25^\circ C$ and $f \geq 50Hz$	I_{AV}	200.0		mA
Forward surge current @ $t < 10ms$	I_{FSM}	4		A
Power dissipation @ $T_A=65^\circ C$	P_{tot}	200 ¹⁾		mW
Junction temperature	T_J	125		°C
Storage temperature range	T_{STG}	-55 --- +150		°C

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

ELECTRICAL CHARACTERISTICS

		MIN	TYP	MAX	UNITS
Forward voltage @ $I_F=200 mA$ $I_F=10 mA$ $I_F=50 mA$ $I_F=2 mA$ $I_F=15 mA$	BAT42	-	-	1	V
	BAT43	-	-	1	
	BAT42	-	-	0.4	
	BAT43	-	-	0.65	
	BAT43	-	-	0.33	
	BAT43	-	-	0.45	
Capacitance @ $V_R=1V, f=1MHz$	C_{tot}	-	7	-	pF
Reverse breakdown voltage $V_R=25 V$ $V_R=25 V, T_J=100^\circ C$	I_R	-	-	0.5	μA
		-	-	100	
Reverse recovery time from $I_F=10mA$ to $I_R=10mA$ $I_{rr}=1mA, R_L=100\Omega$.	t_{rr}	-	-	5	ns
Thermal resistance junction to ambient	$R_{\theta JA}$			300 ¹⁾	K/W
Rectification efficiency (NOTE2)	η_V	0.80	-	-	-

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

2) $R_L=15K$ $C_L=300pF, f=45MHz, V_{RF}=2V$

Ratings AND Characteristic Curves

FIG.1 –FORWARD DERATING CURVE

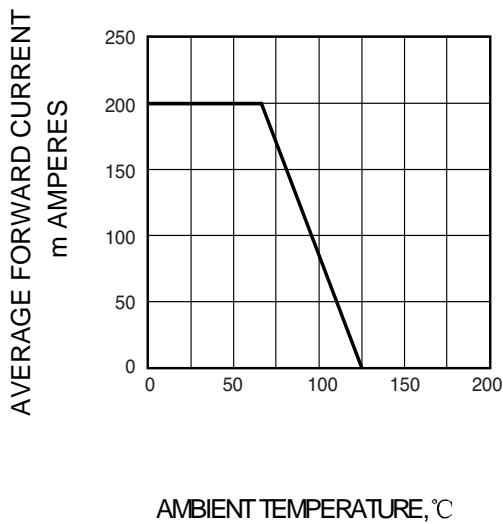


FIG.2 –PEAK FORWARD SURGE CURRENT

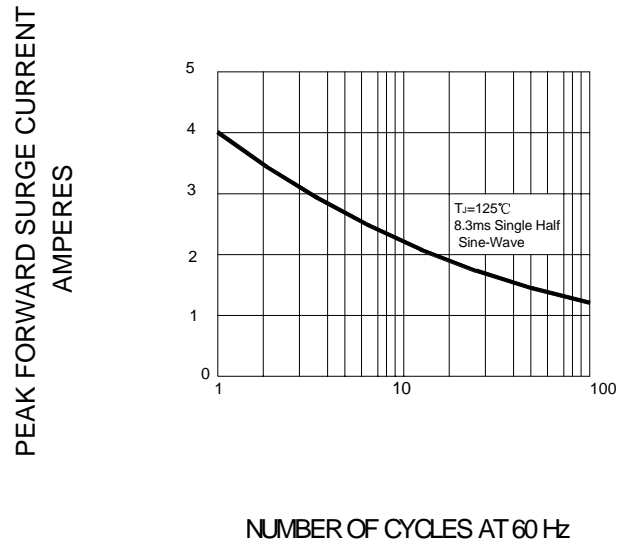


FIG.3–TYPICAL FORWARD CHARACTERISTIC

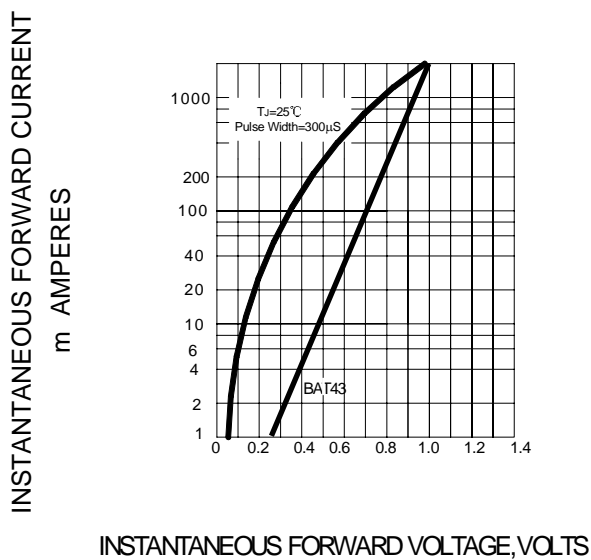


FIG.4–PEAK JUNCTION CAPACITANCE

