RECTRON
SEMICONDUCTOR
TECHNICAL SPECIFICATION

BAT42WS

SMALL SIGNAL DIODE

VOLTAGE RANGE 30 Volts

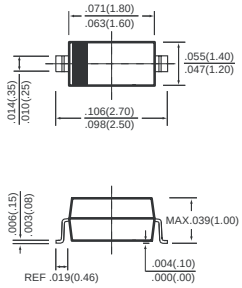
FEATURES

* Low Forward Voltage Drop
* Fast Switching Time
* Surface Mount Package Ideally Suited for Automatic Insertion
* Also Available in Lead Free Version

MECHANICAL DATA

* Case: Molded plastic
* Epoxy: UL 94V-O rate flame retardant
* Lead: MIL-STD-202E method 208C guaranteed
* Mounting position: Any
* Weight: 0.004 grams

SOD-323



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

MAXIMUM RATINGS (@T_A=25°C unless otherwise noted)

RATINGS	SYMBOL	BAT42WS	UNITS
Reverse Breakdown Voltage @ I_R=100μA	$V_{(BR)R}$	30	Volts
Maximum Repetitive Peak Reverse Voltage Maximum Working Peak reverse Voltage Maximum DC Blocking Voltage	V_{RRM} V_{RWM} V_R	30	Volts
Maximum RMS Voltage	V_{RMS}	21	Volts
Maximum Forward Comtinuous Current	I_{FM}	200	mAmps
Repetitive Peak Forward Current @ t<1.0s	I_{FRM}	500	mAmps
Non-Repetitive Peak Forward Surge Current @t<10ms	I_{FSM}	4.0	Amps
Typical Reverse Recovery Time (I_F=I_R=10mA,Irr=0.1xI_R,R_L=100Ω)	T_{rr}	5	nS
Typical Junction Capacitance (V_R=1.0,f=1.0MHz)	C_T	10	pF
Maximum Power Dissipation (Note 1)	P_D	200	mW
Typical Thermal Resistance	$R_{\theta JA}$	625	K/W
Operating and Storage Temperature Range	T_J,T_{STG}	-55 to + 125	°C

ELECTRICAL CHARACTERISTICS (@T_A=25°C unless otherwise noted)

CHARACTERISTICS		SYMBOL	BAT42WS	UNITS
Maximum Instantaneous Forward Voltage	@IF=10mA @IF=50mA	V_F	0.4 0.65	Volts
Maximum Instantaneous Peverse Current	@VR=25V	I_R	0.5	uAmps

Note 1. Part mounted on FR-4 PC board with minimunm recommended pad layout.

2006-5

RATING AND CHARACTERISTICS CURVES (BAT42WS)

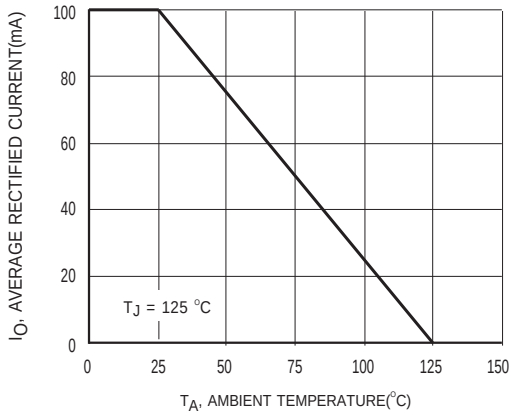


Figure1 Forward Current Derating Curve

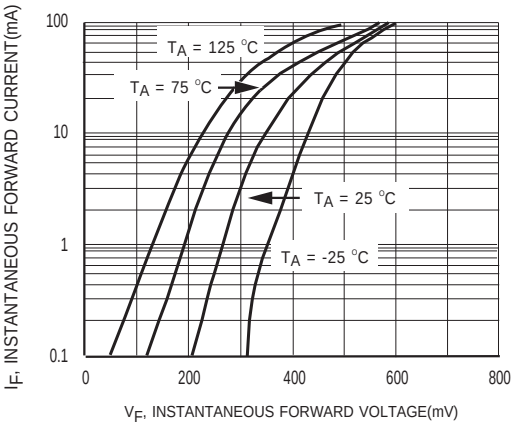


Figure2 Typical Foward Characteristics

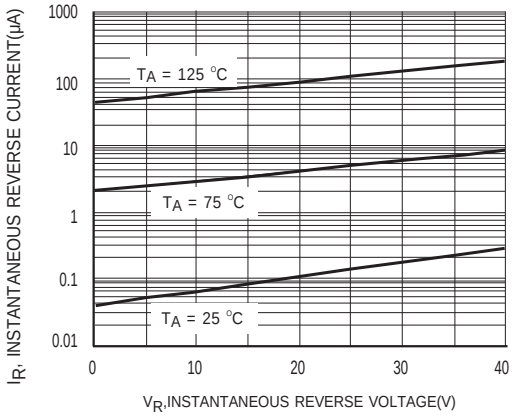


Figure3 Typical Reverse Characteristics

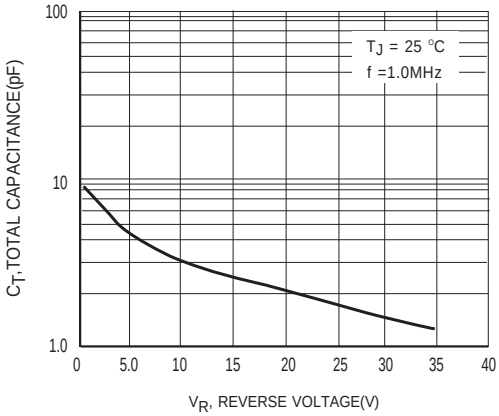


Figure4 Typical Capacitance vs Reverse Voltage

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