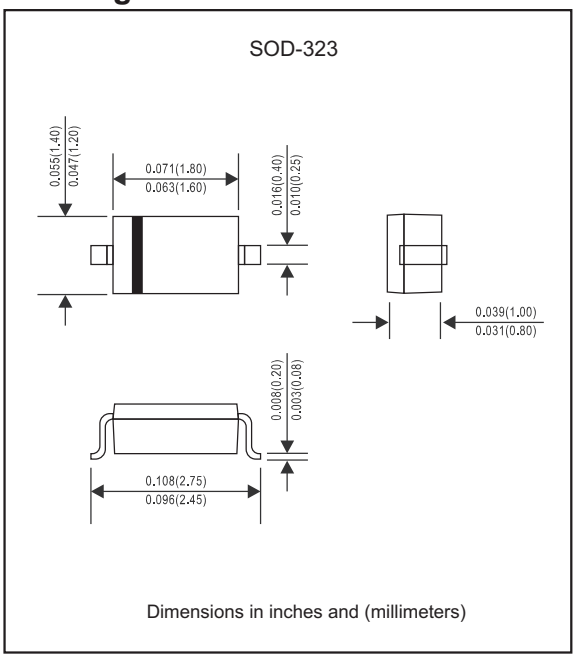
BAT54WS-Q1

200mA Surface Mount Small Signal Schottky Diodes-30V

Features

- Low current rectification and high speed switching
- Small surface mount type
- Up to 200mA current capability
- Low forward voltage drop (0.35V typ. @IF=10mA)
  Silicon epitaxial planar chip, metal silicon junction
- High speed (trr < 6 ns)
- Lead-free parts meet RoHS requirments
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

Package outline



Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-323
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any

Maximum ratings (AT T_A=25°C unless otherwise noted)

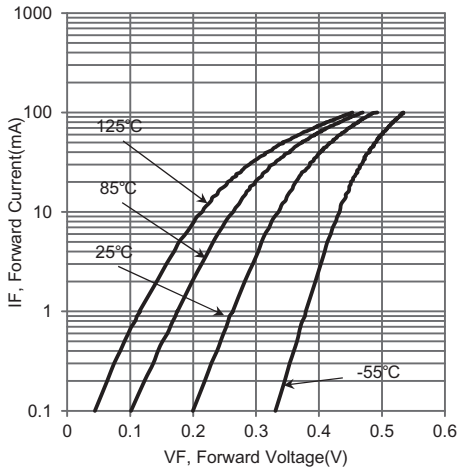
PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Repetitive peak reverse voltage		V_{RRM}			30	V
Reverse voltage		V_R			30	V
Repetitive peak forward current		I_{FRM}			300	mA
Non-repetitive peak forward current	t < 1.0 s	I_{FSM}			600	mA
Forward current		I_F			200	mA
Power dissipation	Mounted on FR-5 board at T_A=25°C	P_D			200	mW
Thermal resistance	Junction to ambient	$R_{\theta JA}$		635		°C/W
Operating junction temperature range		T_J	-55		+125	°C
Storage temperature range		T_{STG}	-55		+125	°C

Electrical characteristics (AT T_A=25°C unless otherwise noted)

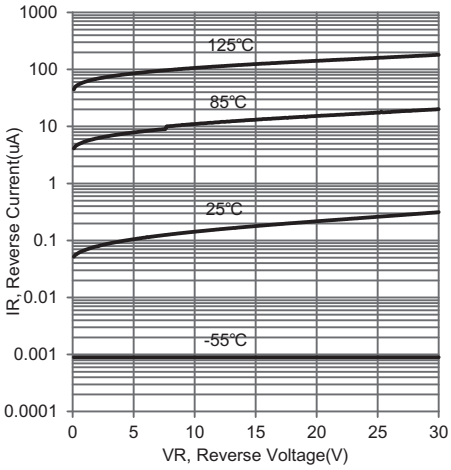
PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward voltage	I_F = 0.1 mA	V_F		0.220	0.240	V
	I_F = 1 mA	V_F		0.290	0.320	V
	I_F = 10 mA	V_F		0.350	0.400	V
	I_F = 30 mA	V_F		0.410	0.500	V
	I_F = 100 mA	V_F		0.520	1.000	V
Reverse current	V_R = 25 V	I_R		0.5	2.0	uA
Total capacitance	V_R = 1 V, f = 1MHz	C_T			10.0	pF
Reverse recovery time	I_F = I_R = 10 mAdc, $I_{R(REC)}$ = 1.0 mAdc	trr			6.0	ns

Rating and characteristic curves (BAT54WS-Q1)

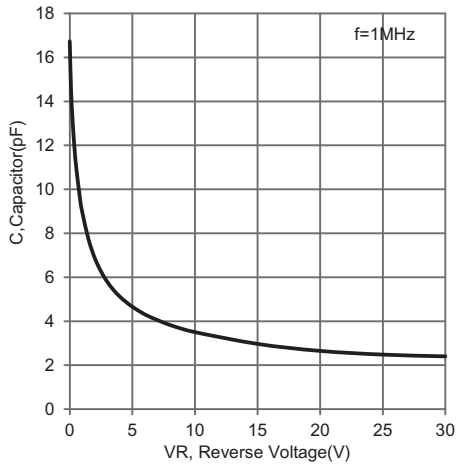
Forward Characteristics

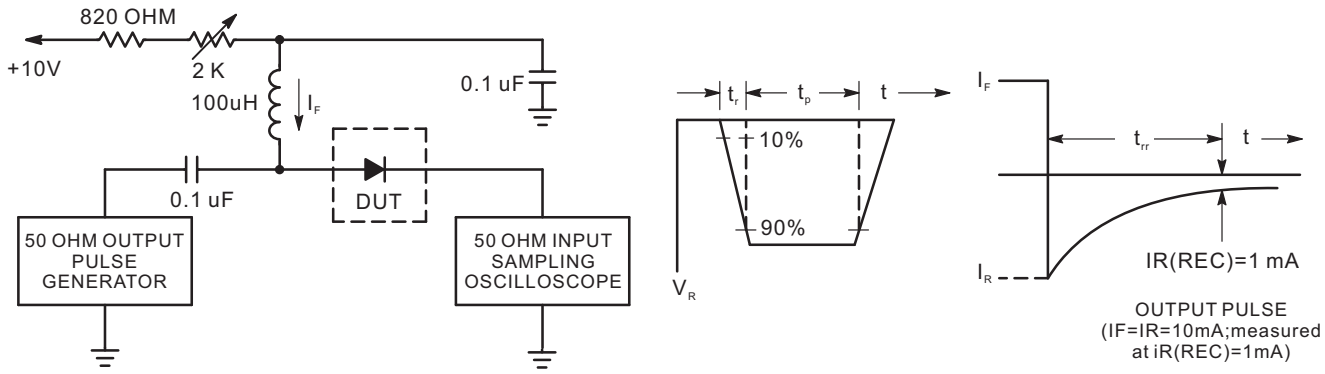


Reverse Characteristics



Capacitor Characteristics





Notes : 1. A2.0 Kohm variable resistor adjusted for a forward Current (IF) of 10mA.
2. Input pulse is adjusted so IR(peak) is equal to 10 mA.
3. tp >> trr.

Recovery Time Equivalent Test Circuit

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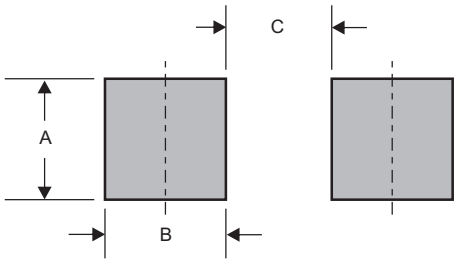
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
BAT54WS-Q1	L9 or S1

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-323	0.032 (0.82)	0.022 (0.56)	0.069 (1.75)