

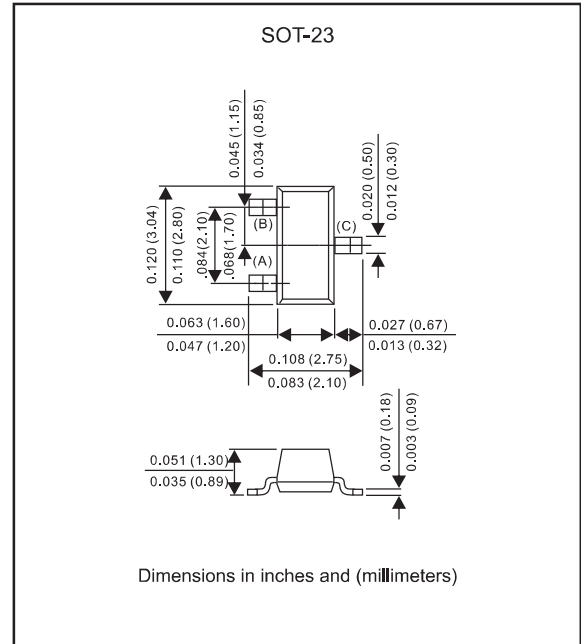
Features

- Low forward current
- Guard ring protected
- Low diode capacitance
- Lead-free parts for green partner, exceeds environmental standards of MIL-STD-19500 /228
- Compliant to Halogen-free.
- Suffix "-Q1" for AEC-Q101.

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, SOT-23
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Mounting Position : Any

Package outline



Maximum ratings and Electrical Characteristics (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Continuous reverse voltage		V_R			40	V
Repetitive Peak forward surge current	$t_p < 1\text{s}$	I_{FSM}			120	mA
Non-repetitive peak forward current	$t_p < 10\text{ms}$	I_{FSM}			200	mA
Continuous Forward current		I_F			120	mA
Thermal Resistance	Junction to ambient	$R_{\theta JA}$		500		$^{\circ}\text{C}/\text{W}$
Operating junction temperature range		T_J	-55		+125	$^{\circ}\text{C}$
Storage temperature range		T_{STG}	-55		+125	$^{\circ}\text{C}$
Forward voltage	$I_F = 1\text{ mA}$	V_F			0.40	V
	$I_F = 10\text{ mA}$	V_F			0.56	V
	$I_F = 40\text{ mA}$	V_F			1.0	V
Reverse current	$V_R = 30\text{ V}$	I_R			1.0	μA
	$V_R = 40\text{ V}$	I_R			10	μA
Diode capacitance	$V_R = 0\text{ V}, f = 1\text{MHz}$	C_D			5.0	pF

Rating and characteristic curves for each diode (BAS40/-04/-05/-06-Q1)

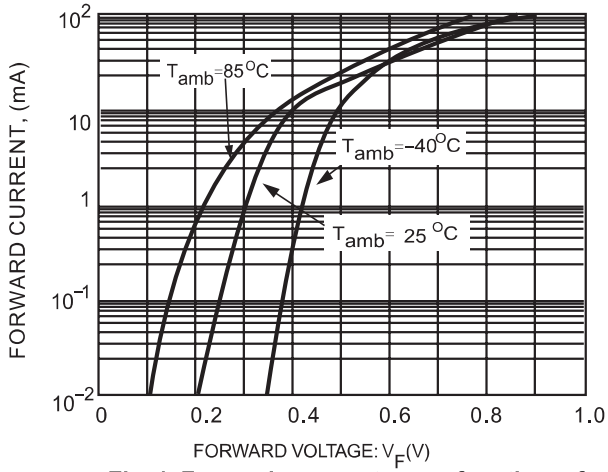


Fig. 1 Forward current as a function of forward voltage; typical values.

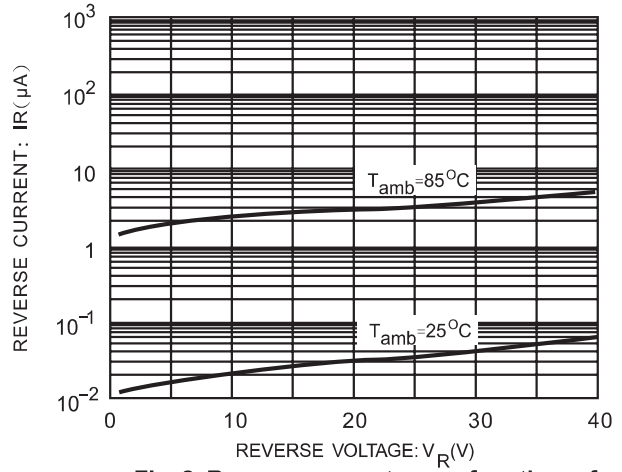


Fig. 2 Reverse current as a function of reverse voltage; typical values.

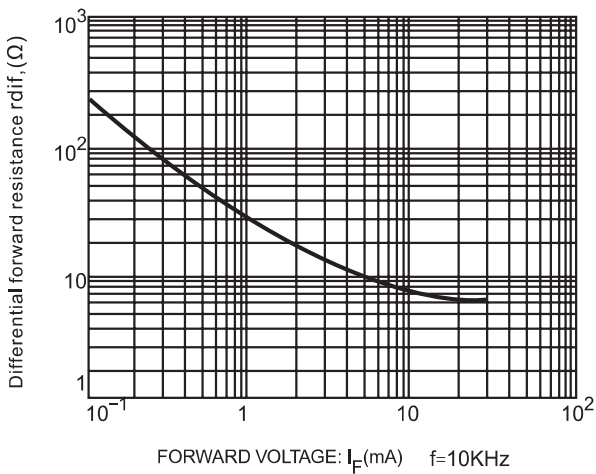


Fig. 3 Differential forward resistance as a function of forward current; typical values.

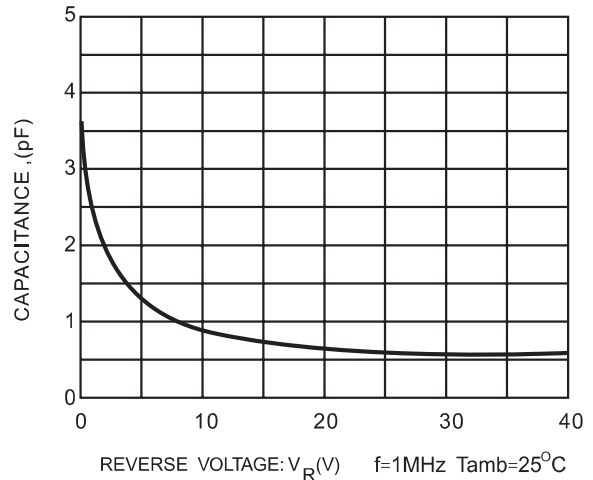
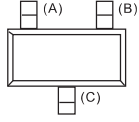
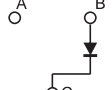
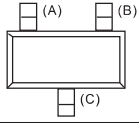
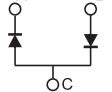
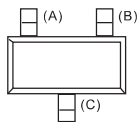
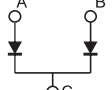
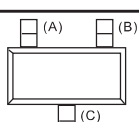
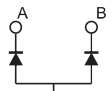


Fig. 4 Diode capacitance as a function of reverse voltage; typical values.

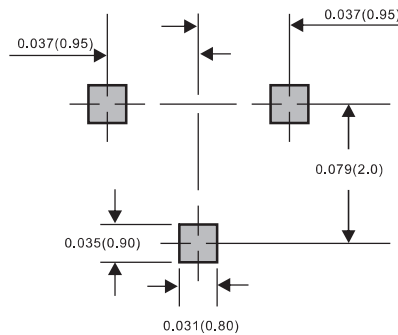


Pinning information

Type number	Marking code	Simplified outline	Symbol
BAS40-Q1	43, B1		
BAS40-04-Q1	44, CB		
BAS40-05-Q1	45		
BAS40-06-Q1	46, L2		

Suggested solder pad layout

SOT-23



Dimensions in inches and (millimeters)