

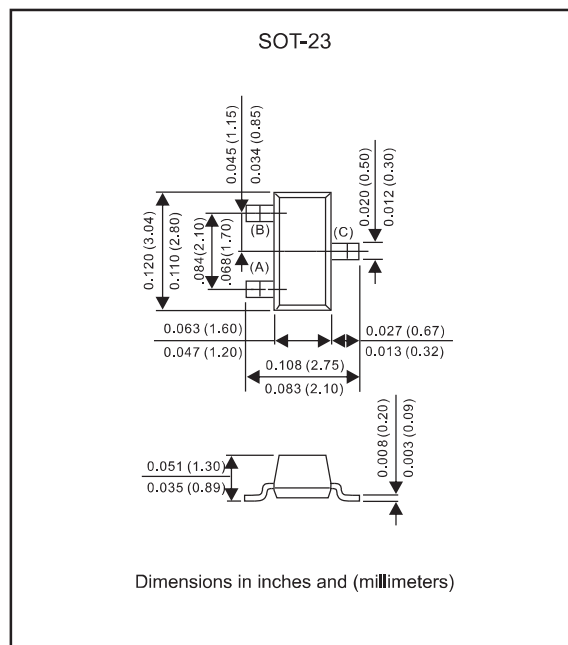
Features

- 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
Reverse Voltage	$I_R = 10\mu\text{A}$	V_{BR}	40			V
Power dissipation		P_D			200	mW
Repetitive Peak forward surge current	@ $t = 8.3\text{ms}$ half-sine wave	I_{FSM}			600	mA
Maximum average forward rectified current		I_{FM}			200	mA
Thermal Resistance	Junction to ambient	$R_{\theta JA}$		500		$^\circ\text{C/W}$
Operating junction temperature range		T_J			+125	$^\circ\text{C}$
Storage temperature range		T_{STG}	-55		+125	$^\circ\text{C}$
Forward voltage	$I_F = 1\text{mA}$	V_F			0.38	V
	$I_F = 40\text{mA}$	V_F			1.0	V
Reverse current	$V_R = 30\text{V}$	I_R			0.2	μA
Diode capacitance	$V_R = 0\text{V}$, $f = 1\text{MHz}$	C_D			5.0	pF
Reverse recovery time	$I_F = I_R = 5\text{mA}$, $I_{RR} = 0.5\text{mA}$, $R_L = 100\Omega$	t_{rr}			5.0	nS

Rating and characteristic curves for each diode

Fig 1: P_D - T_a Curve

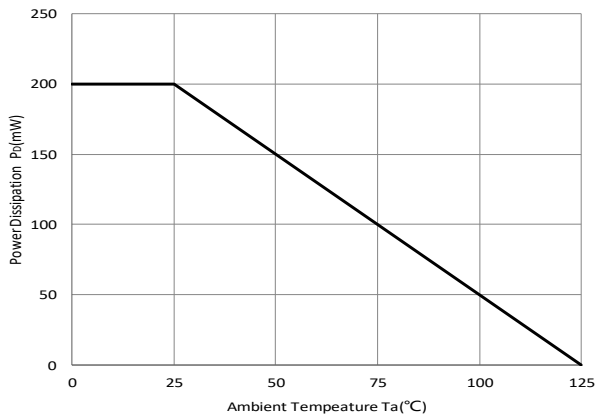


Fig 2 : Capacitance Capability

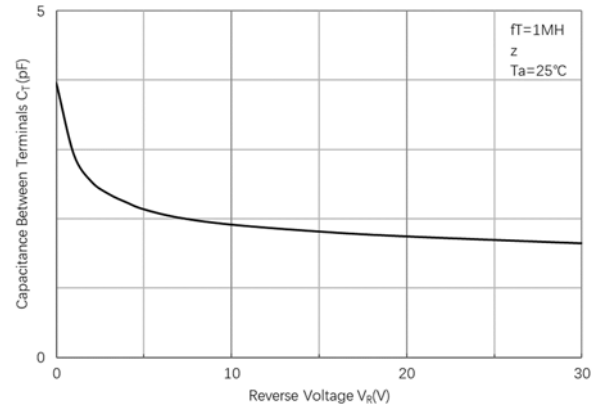


Fig 3: Typical Forward Characteristics

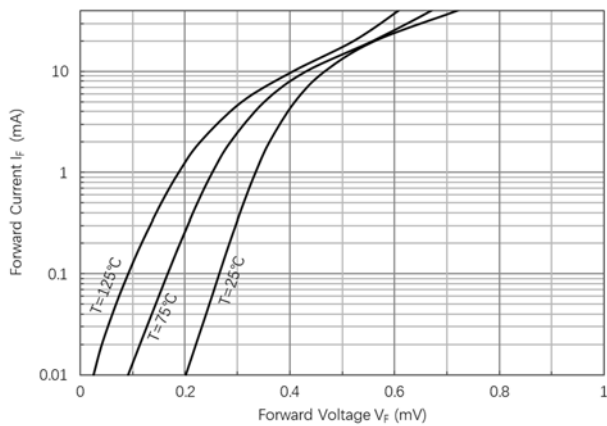
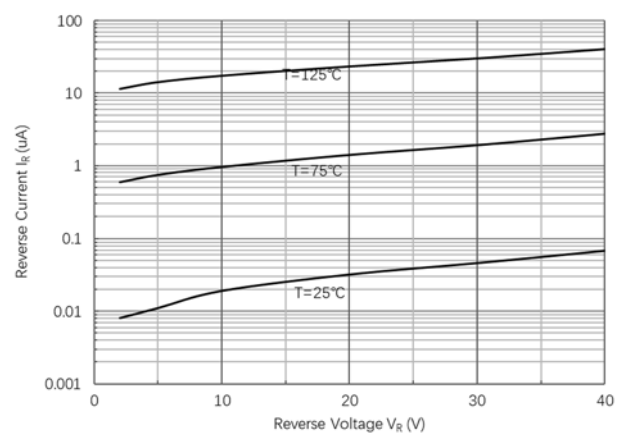
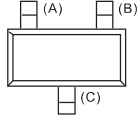
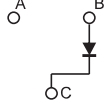
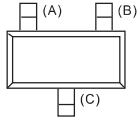
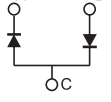
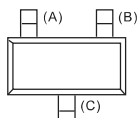
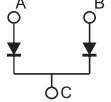
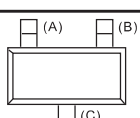
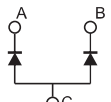


Fig 4: Typical Reverse Characteristics

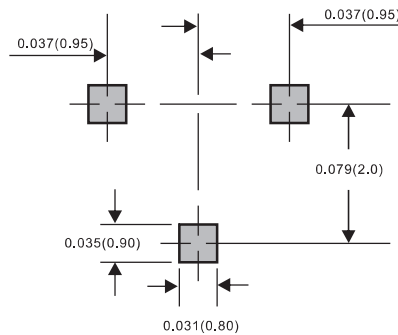


Pinning information

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)