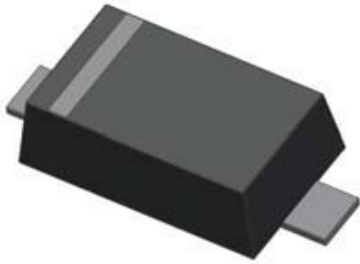
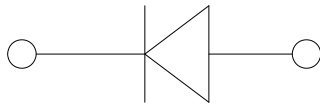


## Small-Signal Fast Switching Diodes



**SOD523**



### Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- $V_R$  100V
- $I_{FAV}$  250mA
- Part no. with suffix "Q" means AEC-Q101 qualified

### Typical Applications

- Extreme fast switches

### Mechanical Data

- **Package:** SOD523
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end
- **Marking:** 61

### ■ Maximum Ratings ( $T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	Conditions	VALUE
Repetitive peak reverse voltage	$V_{RRM}$	V		100
Reverse voltage	$V_R$	V	$I_R=100\mu\text{A}$	100
Peak forward surge current	$I_{FSM}$	A	Pulse width=1 us	2
			Pulse width=1 s	1
Non-repetitive peak forward surge current	$I_{FSM}$	A	8.3ms half sine-wave	1
Average forward current	$I_{FAV}$	mA		250
Thermal Resistance Junction to Ambient	$R_{thJA}$	$^\circ\text{C/W}$		833
Power dissipation	$P_D$	mW		150
Maximum junction temperature	$T_j$	$^\circ\text{C}$		-55 to +150
Storage temperature range	$T_{stg}$	$^\circ\text{C}$		-55 to +150



# BAS516Q

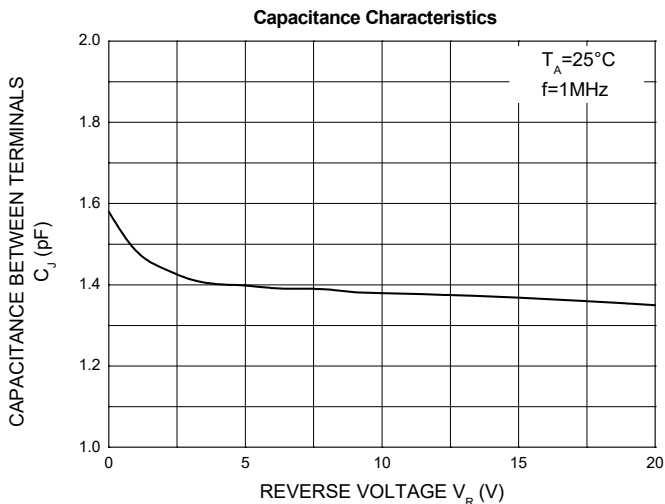
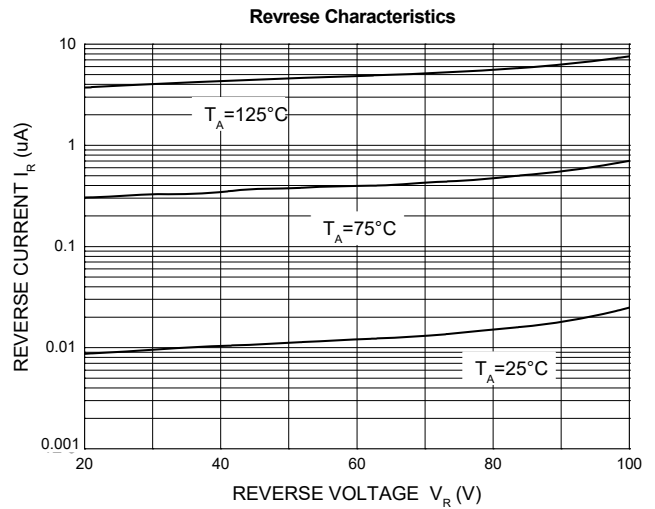
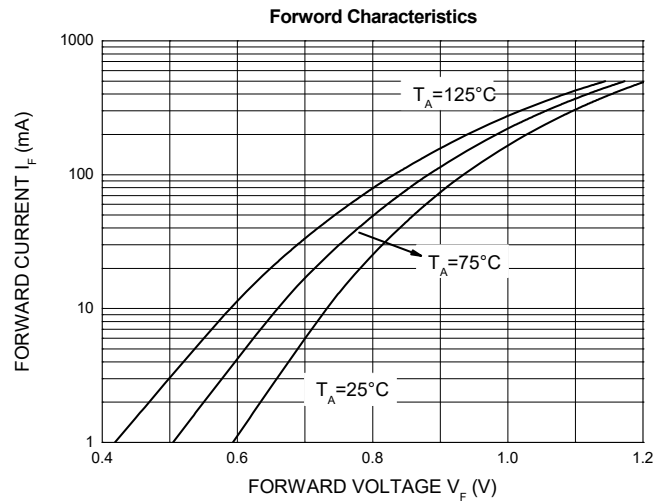
## ■ Electrical Characteristics (T<sub>A</sub>=25°C Unless otherwise specified)

PARAMETER	Symbol	UNIT	Conditions	Min	Max
Breakdown Voltage	V <sub>R</sub>	V	I <sub>R</sub> =100uA	100	
Forward Voltage	V <sub>F</sub>	V	I <sub>F</sub> =1mA		0.715
			I <sub>F</sub> =10mA		0.855
			I <sub>F</sub> =50mA		1.00
			I <sub>F</sub> =150mA		1.25
Reverse Leakage Current	I <sub>R1</sub>	nA	V <sub>R</sub> =25V		30
	I <sub>R2</sub>	uA	V <sub>R</sub> =75V		1
Capacitance	C <sub>J</sub>	pF	V <sub>R</sub> =0V, f=1MHz; V <sub>sig</sub> =50mV <sub>p-p</sub>		4
Reverse Recovery Time	T <sub>rr</sub>	ns	I <sub>F</sub> =I <sub>R</sub> =10mA, I <sub>rr</sub> =0.1*I <sub>R</sub> , R <sub>L</sub> =100Ω		4

## ■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BAS516Q	F2	Approximate 0.002	8000	80000	320000	7" reel

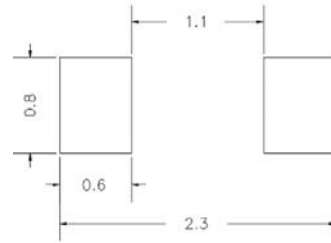
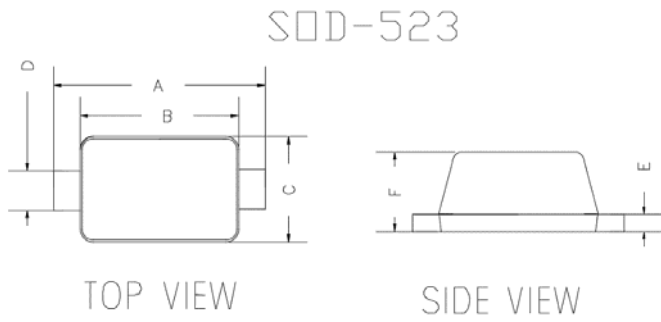
## ■ Characteristics (Typical)





# BAS516Q

## ■ Outline Dimensions



UNIT : mm

SUGGESTED SOLDER PAD LAYOUT

DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.059	0.067	1.500	1.700
B	0.043	0.051	1.100	1.300
C	0.028	0.035	0.700	0.900
D	0.010	0.014	0.250	0.350
E	0.002	0.008	0.050	0.200
F	0.020	0.028	0.500	0.700



## BAS516Q

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