

# BAS16

**PRV : 85 Volts**  
**Io : 215 mA**

## FEATURES :

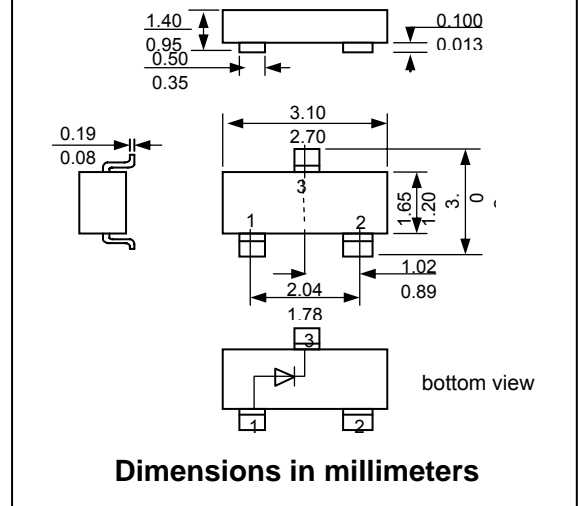
- \* Small plastic SMD package
- \* High switching speed: max. 4 ns
- \* Continuous reverse voltage: max. 75 V
- \* Repetitive peak reverse voltage: max. 85 V
- \* Repetitive peak forward current: max. 500 mA
- \* Pb / RoHS Free

## MECHANICAL DATA :

- \* Case : SOT-23 plastic Case
- \* Marking code : A6

## HIGH - SPEED SWITCHING

### SOT-23



## MAXIMUM RATINGS AND THERMAL CHARACTERISTICS (Ta = 25 °C)

Parameter	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	85	V
Maximum Continuous Reverse Voltage	$V_R$	75	V
Maximum Continuous Forward Current (Note 1)	$I_F$	215	mA
Maximum Repetitive Peak Forward Current	$I_{FRM}$	500	mA
Maximum Non-repetitive Peak Forward Surge Current (square wave; $T_j=25\text{ }^\circ\text{C}$ prio to surge)	$I_{FSM}$	$t = 1\ \mu\text{s}$ 4.0	A
		$t = 1\ \text{ms}$ 1.0	
		$t = 1\ \text{s}$ 0.5	
Total Power Dissipation (Note 1)	$P_{tot}$	250	mW
Thermal Resistance Junction to Tie-point	$R_{th\ j\text{-}tp}$	330	K/W
Thermal Resistance Junction to Ambient (Note 1)	$R_{th\ j\text{-}a}$	500	K/W
Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

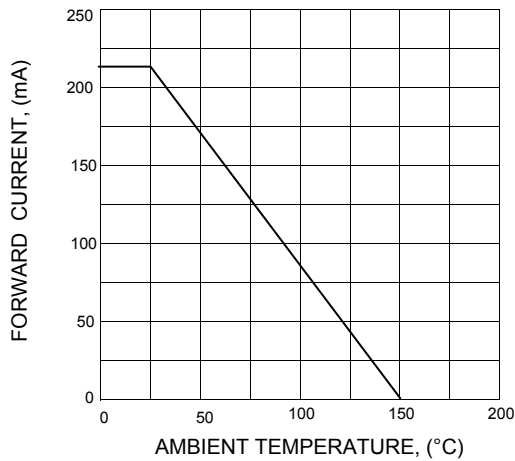
## ELECTRICAL CHARACTERISTICS (Tj = 25 °C unless otherwise specified)

Parameter	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Forward Voltage	$I_F = 1\ \text{mA}$	$V_F$	-	-	715	mV
	$I_F = 10\ \text{mA}$		-	-	855	mV
	$I_F = 50\ \text{mA}$		-	-	1.00	V
	$I_F = 150\ \text{mA}$		-	-	1.25	V
Reverse Current	$V_R = 25\ \text{V}$	$I_R$	-	-	30	nA
	$V_R = 75\ \text{V}$		-	-	1.0	$\mu\text{A}$
	$V_R = 25\ \text{V}, T_j = 150\text{ }^\circ\text{C}$		-	-	30	$\mu\text{A}$
	$V_R = 75\ \text{V}, T_j = 150\text{ }^\circ\text{C}$		-	-	50	$\mu\text{A}$
Diode Capacitance	$V_R = 0\ \text{V}, f = 1\ \text{MHz}$	$C_D$	-	-	1.5	pF
Reverse Recovery Time	$I_F = 10\ \text{mA}$ to $I_R = 10\ \text{mA}$ , $R_L = 100\ \Omega$ : measured at $I_R = 1\ \text{mA}$	$T_{rr}$	-	-	4	ns

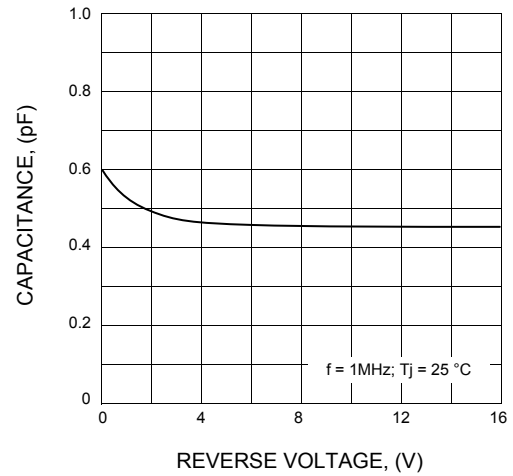
Note : (1) Device mounted on an FR4 printed-circuit board.

### RATINGS AND CHARACTERISTIC CURVES ( BAS16 )

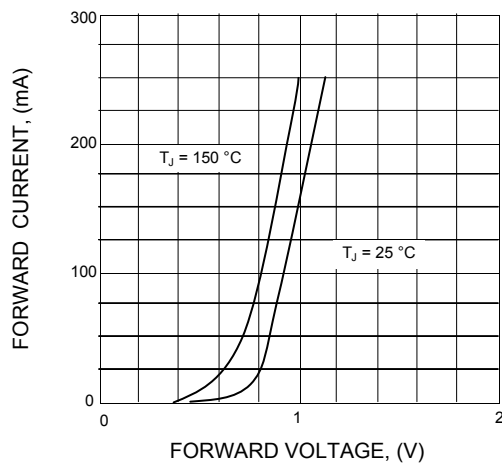
**FIG.1 - MAXIMUM CONTINUOUS FORWARD CURRENT VS. AMBIENT TEMPERATURE**



**FIG.2 - DIODE CAPACITANCE VS. REVERSE VOLTAGE; TYPICAL VALUES**



**FIG.3 - FORWARD CURRENT VS. FORWARD VOLTAGE ; TYPICAL VALUES**



**FIG.4 - REVERSE CURRENT VS. JUNCTION TEMPERATURE; TYPICAL VALUES**

