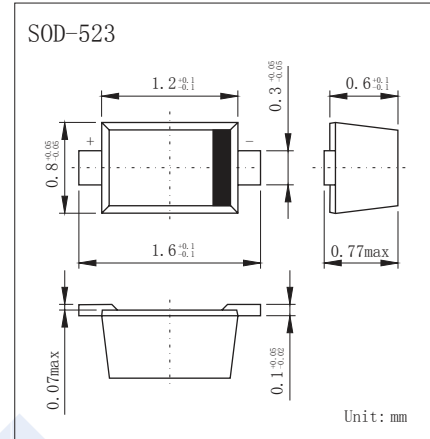
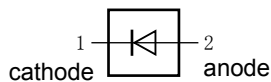


## Switching Diodes

## BAS521 (KAS521)

## ■ Features

- High switching speed:  $t_{rr} \leq 50 \text{ ns}$
- High reverse voltage:  $V_R \leq 300 \text{ V}$
- Repetitive peak forward current:  $I_{FRM} \leq 1 \text{ A}$
- High-speed switching
- High-voltage switching

■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Rating	Unit
Repetitive Peak Reverse Voltage	$V_{RM}$	300	V
Reverse Voltage	$V_R$	300	
Forward Current @ $T_{sp} \leq 90^\circ\text{C}$	$I_F$	250	mA
Repetitive Peak Forward Current	$I_{FRM}$	1	A
Non-repetitive peak forward surge current ( $t=1\mu\text{s}$ )	$I_{FSM}$	4.5	
Power Dissipation	$P_d$	500	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	500	$^\circ\text{C}/\text{W}$
Thermal Resistance Junction to Solder Point	$R_{\theta JSP}$	120	
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature range	$T_{stg}$	-65 to 150	

■ Electrical Characteristics  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse breakdown voltage	$V_R$	$I_R = 100 \mu\text{A}$	300			V
Forward voltage (Note.1)	$V_F$	$I_F = 100 \text{ mA}$			1.1	
Reverse voltage leakage current	$I_R$	$V_R = 250 \text{ V}$			150	nA
		$V_R = 250 \text{ V}, T_a = 150^\circ\text{C}$			100	$\mu\text{A}$
Junction capacitance	$C_j$	$V_R = 0 \text{ V}, f = 1 \text{ MHz}$			5	pF
Reverse recovery time	$t_{rr}$	(Note.2)			50	ns

Note.1: Pulse test:  $t_p = 300 \mu\text{s}; \delta = 0.02$ .

Note.2: When switched from  $I_F = 30 \text{ mA}$  to  $I_R = 30 \text{ mA}$ ;  $R_L = 100 \Omega$ ; measured at  $I_R = 3 \text{ mA}$ .

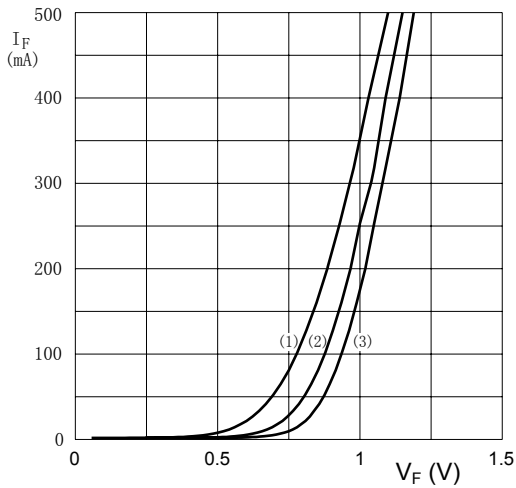
## ■ Marking

Marking	L4
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## Switching Diodes

### BAS521 (KAS521)

■ Typical Characteristics



- (1)  $T_{amb} = 150\text{ }^{\circ}\text{C}$
- (2)  $T_{amb} = 75\text{ }^{\circ}\text{C}$
- (3)  $T_{amb} = 25\text{ }^{\circ}\text{C}$

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

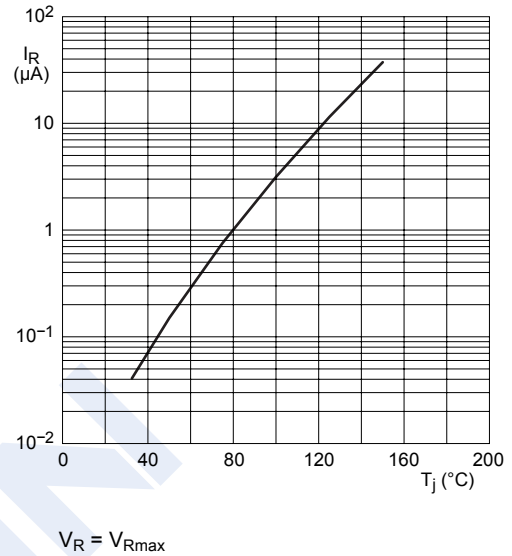


Fig 2. Reverse current as a function of junction temperature; typical values

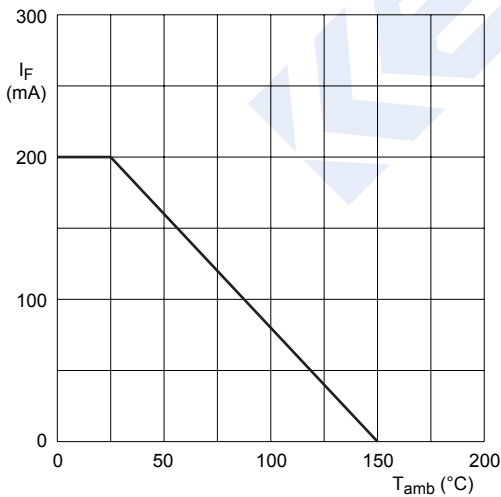


Fig 3. Forward current as a function of ambient temperature; derating curve

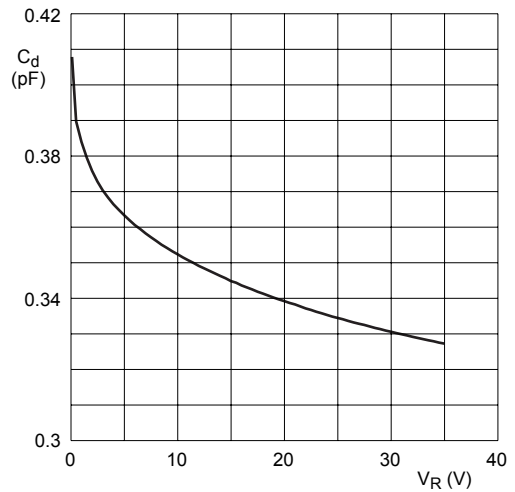
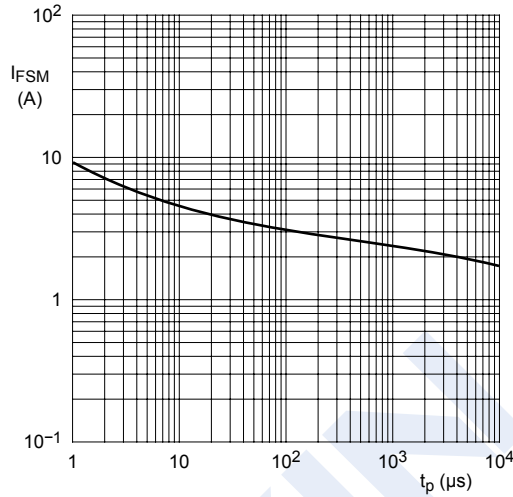


Fig 4. Diode capacitance as a function of reverse voltage; typical values

## Switching Diodes

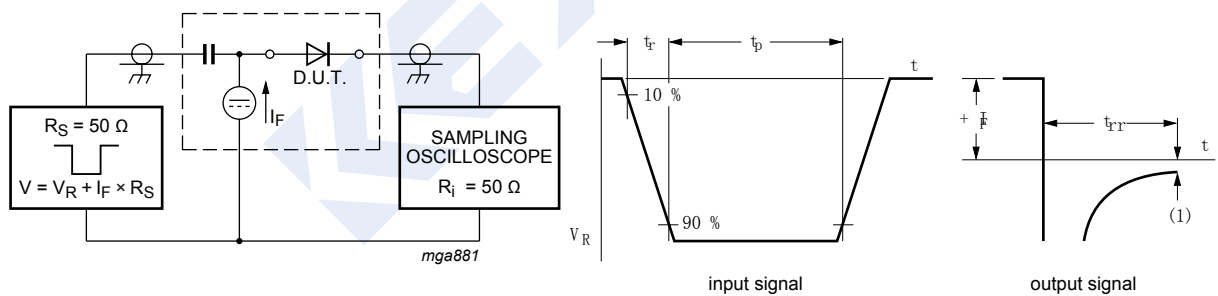
### BAS521 (KAS521)

■ Typical Characteristics



Based on square wave currents.  
 $T_j = 25^\circ C$  prior to surge.

**Fig 5. Non-repetitive peak forward current as a function of pulse duration; maximum values**



(1)  $I_R = 3 \text{ mA}$

**Fig 6. Reverse recovery time test circuit and waveforms**