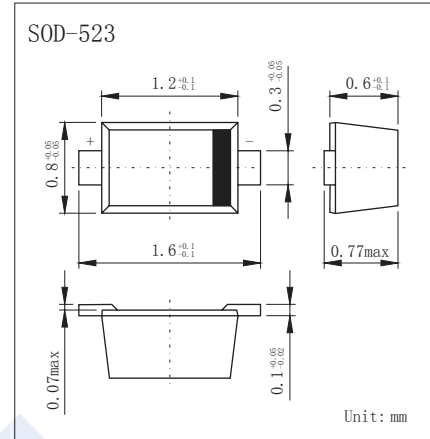
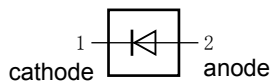


Switching Diodes

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	μA
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 $I_R = 3 \text{ mA}$.

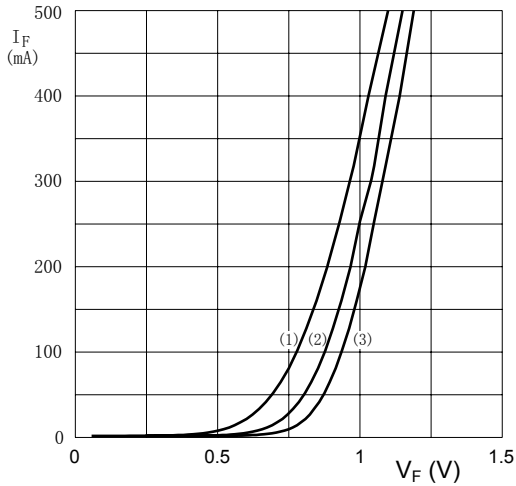
■ Marking

Marking	L4
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Switching Diodes

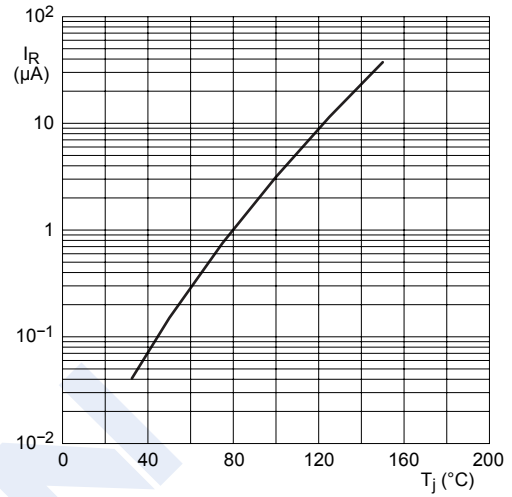
BAS521 (KAS521)

■ 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



$V_R = V_{Rmax}$

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

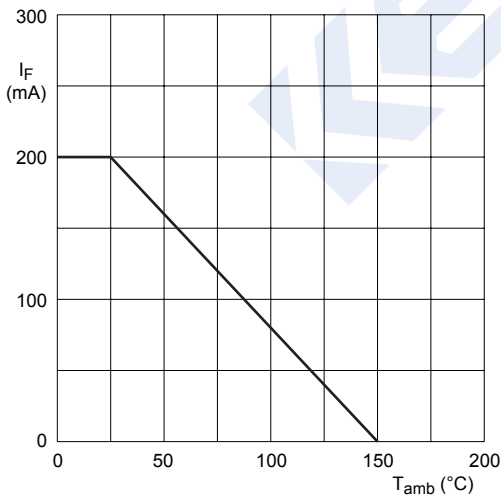
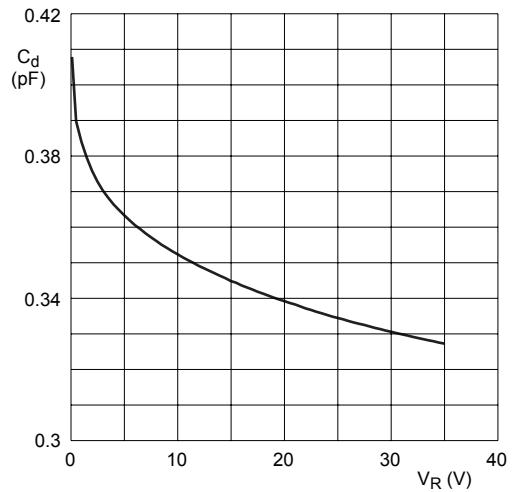


Fig 3. Forward current as a function of ambient temperature; derating curve



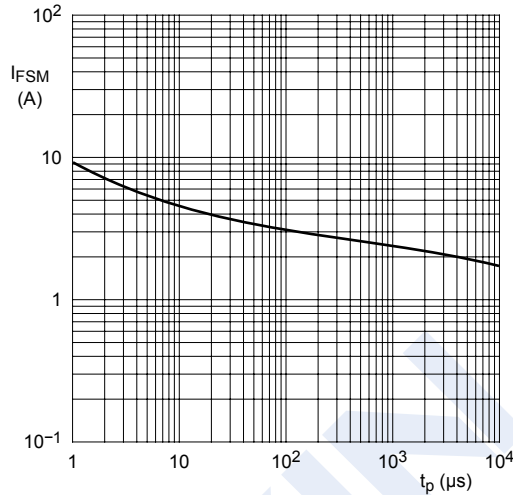
$f = 1\text{ MHz}; T_{amb} = 25\text{ }^\circ\text{C}$

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

Switching Diodes

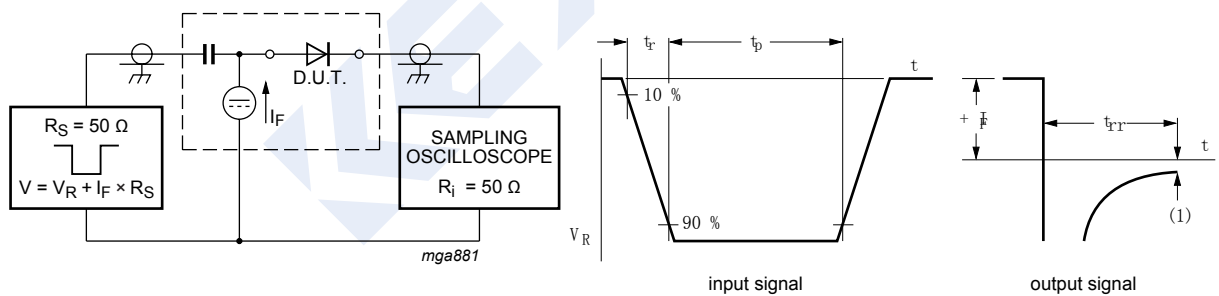
BAS521 (KAS521)

■ 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