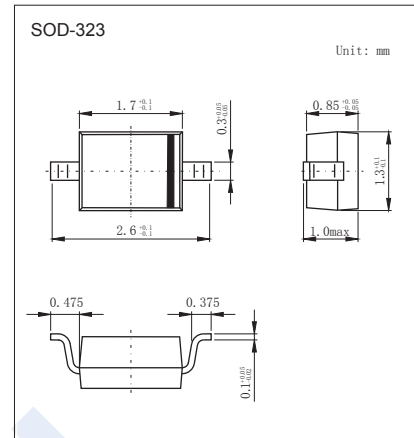
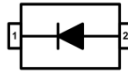


## Switching Diodes

## BAS511 (KAS511)

## ■ Features

- Silicon epitaxial planar diode
- High switching speed:  $t_{rr} \leq 4\text{ns}$
- Low forward drop voltage and low leakage current
- “Green” device and RoHS compliant device
- Available in full lead (Pb)-free device

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

Parameter	Symbol	Rating	Unit
Repetitive Peak Reverse Voltage	$V_{RM}$	85	V
Continuous Reverse Voltage	$V_R$	80	
Average Forward Rectified Current	$I_o$	100	mA
Forward Current	$I_F$	100	
Peak Forward Surge Current	$I_{FM}$	300	
Non-repetitive peak forward surge current( $t=10\text{ms}$ )	$I_{FSM}$	2	A
Power Dissipation	$P_d$	150	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	830	$^\circ\text{C}/\text{W}$
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature range	$T_{stg}$	-55 to 150	

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse breakdown voltage	$V_R$	$I_R = 100 \mu\text{A}$	85			V
Forward voltage (Note.1)	$V_{F1}$	$I_F = 1 \text{ mA}$		0.6		
	$V_{F2}$	$I_F = 10 \text{ mA}$		0.7		
	$V_{F3}$	$I_F = 100 \text{ mA}$		0.9	1.2	
Reverse voltage leakage current	$I_{R1}$	$V_R = 80 \text{ V}$ (Note.2)			0.5	$\mu\text{A}$
Junction capacitance	$C_j$	$V_R = 0 \text{ V}$ , $f = 1 \text{ MHz}$			4	pF
Reverse recovery time	$t_{rr}$	$I_F = 10 \text{ mA}$			4	ns

Note.1: Pulse test:  $t_P \leq 380 \mu\text{s}$ , Duty cycle  $\leq 2\%$

Note.2: Pulse test:  $t_P \leq 5 \text{ ms}$ , Duty cycle  $\leq 2\%$

## ■ Marking

Marking	S1*
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# Switching Diodes

## BAS511 (KAS511)

■ Typical Characteristics

Fig. 1) Typical Forward Characteristics

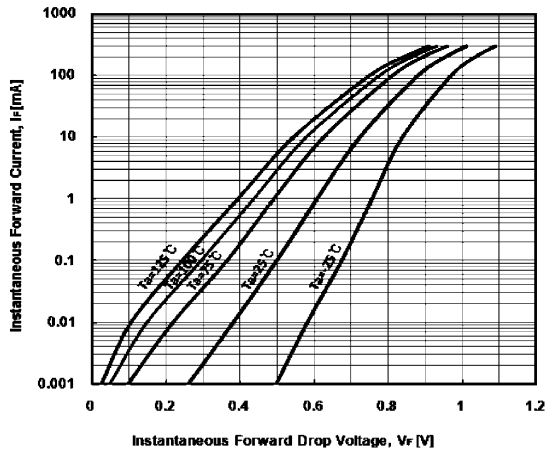


Fig. 2) Typical Reverse Characteristics

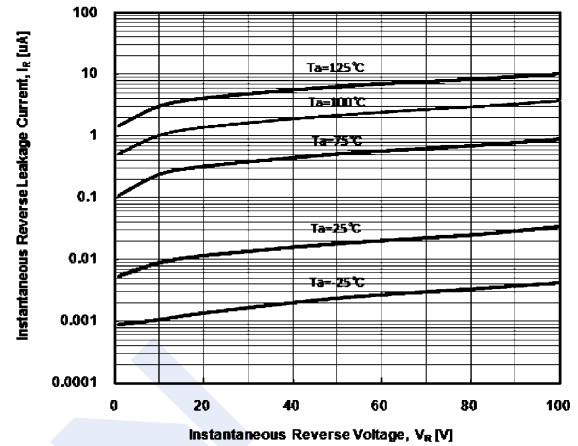


Fig. 3) Typical Total Capacitance Characteristics

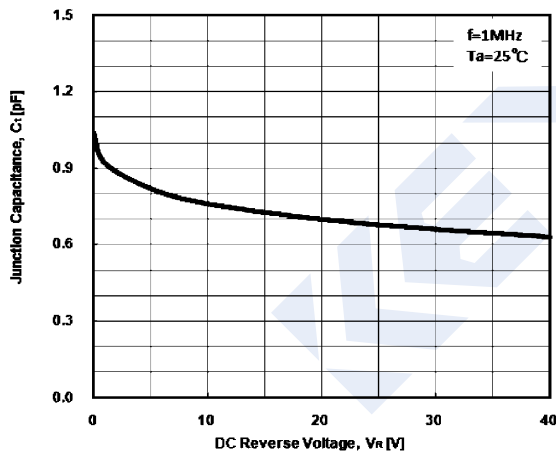


Fig. 4) Reverse Recovery Time vs. Forward Current

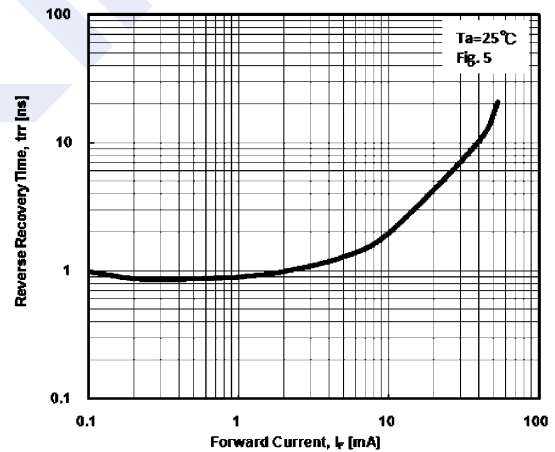


Fig. 5) Reverse recovery time equivalent test circuit

