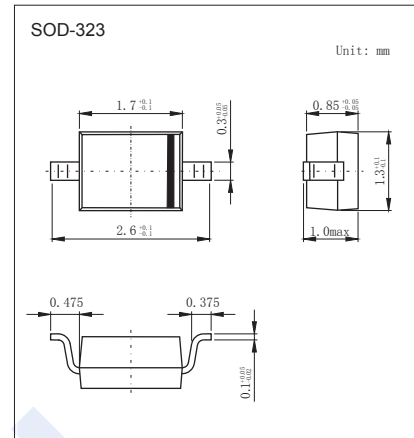
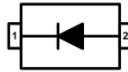


Switching Diodes

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	μA
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

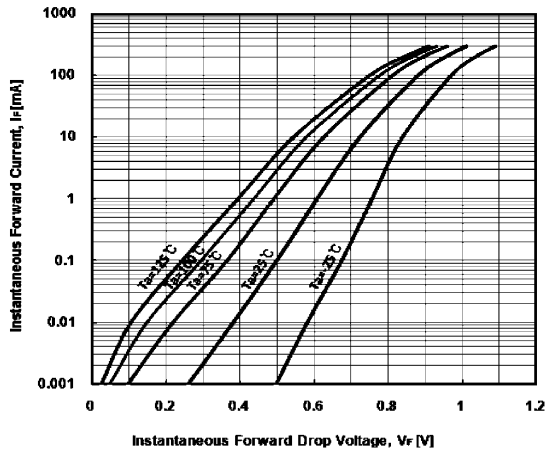


Fig. 2) Typical Reverse Characteristics

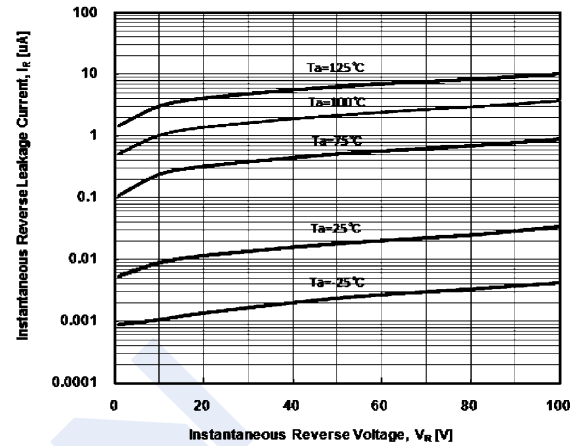


Fig. 3) Typical Total Capacitance Characteristics

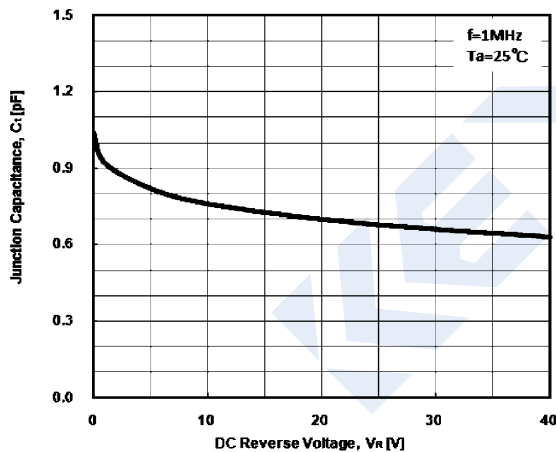


Fig. 4) Reverse Recovery Time vs. Forward Current

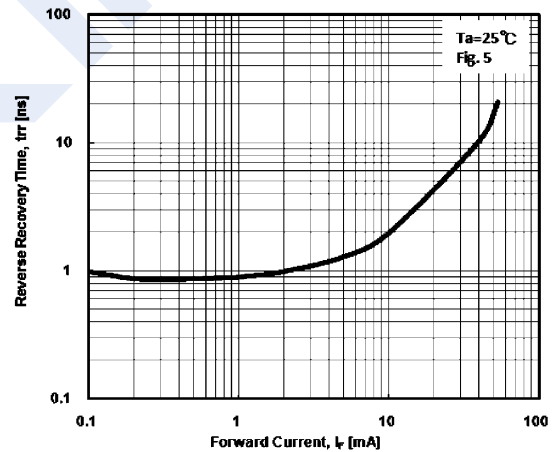


Fig. 5) Reverse recovery time equivalent test circuit

