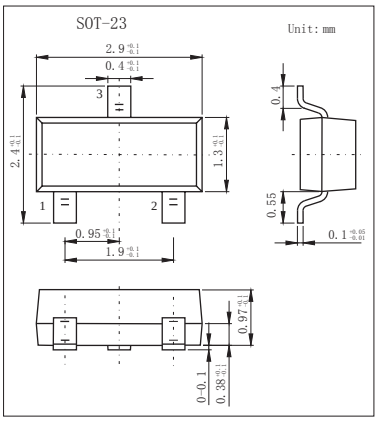
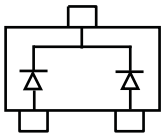
Switching Diodes
1KS3002



■ Features

- Small plastic SMD package.
- High switching sped: max.4 ns.
- Repetitive peak forward current: max.450 mA.



■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Repetitive peak reverse voltage	V_{RRM}	100	V
Continuous reverse voltage	V_R	100	V
Continuous forward current(single diode loaded *) (double diode loaded *)	I_F	215 125	mA
Repetitive peak forward current	I_{FRM}	450	mA
Non-repetitive peak forward current Tj=25 ℃ t=1 μ s	I_{FSM}	4	A
t=1ms		1	
t=1s		0.5	
power dissipation *	P_D	250	mW
Thermal resistance from junction to tie-point	$R_{th\ j\text{-}tp}$	360	K/W
Thermal resistance from junction to ambient *	$R_{th\ j\text{-}a}$	500	K/W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-65 to +150	℃

* Device mounted on an FR4 printed-circuit board.

■ Electrical Characteristics Ta = 25℃

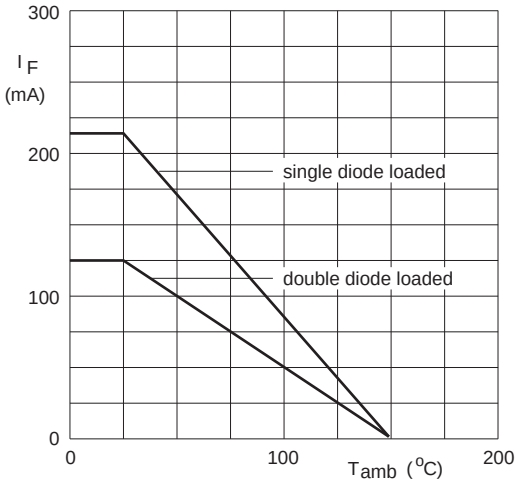
Parameter	Symbol	Test conditions	Max	Unit
Forward voltage	V_F	I_F =1 mA	715	mV
		I_F =10 mA	855	mV
		I_F =50 mA	1	V
		I_F =150 mA	1.25	V
Reverse current	I_R	V_R =100 V	1	μ A
		V_R =25 V; Tj= 150 ℃	30	
		V_R =100 V;Tj= 150℃	50	
Diode capacitance	C_d	V_R =0 V, f= 1 MHz	1.5	pF
Reverse recovery time	t_{rr}	when switched from I_F= 10 mA to I_R=10mA;R_L=100Ω; measured at I_R= 1mA	4	nS
Forward recovery voltage	V_{fr}	I_F = 10 mA, tr= 20 ns	1.75	V

■ Marking

Marking	SS2

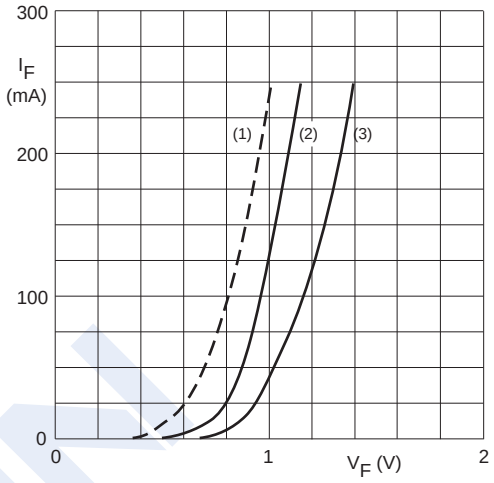
1KS3002

■ Typical Characteristics



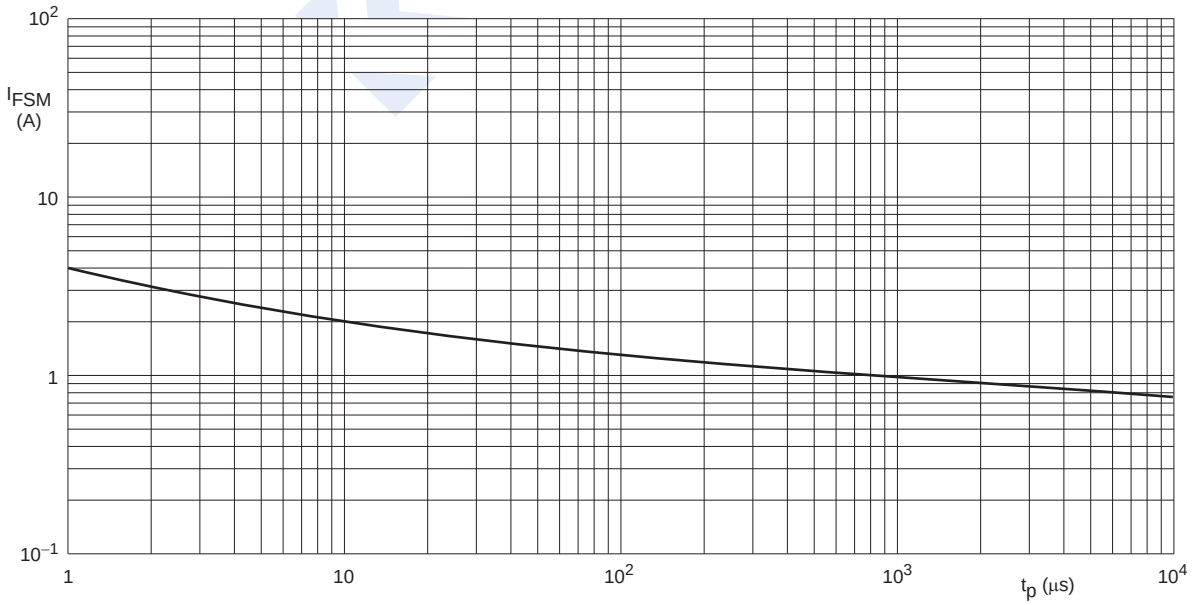
Device mounted on an FR4 printed-circuit board.

Fig.2 Maximum permissible continuous forward current as a function of ambient temperature.



(1) T_j = 150 °C; typical values.
(2) T_j = 25 °C; typical values.
(3) T_j = 25 °C; maximum values.

Fig.3 Forward current as a function of forward voltage.



Based on square wave currents.
T_j = 25 °C prior to surge.

Fig.4 Maximum permissible non-repetitive peak forward current as a function of pulse duration.

1KS3002

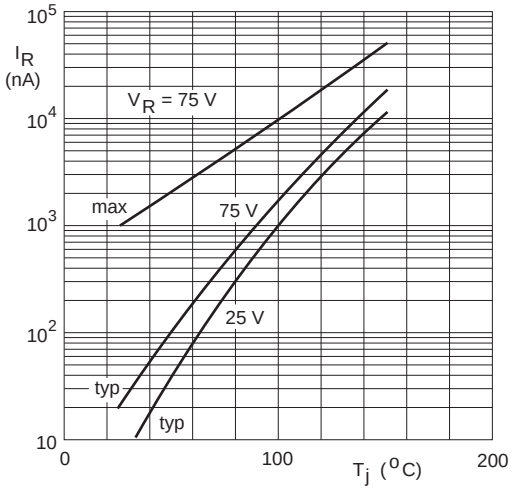
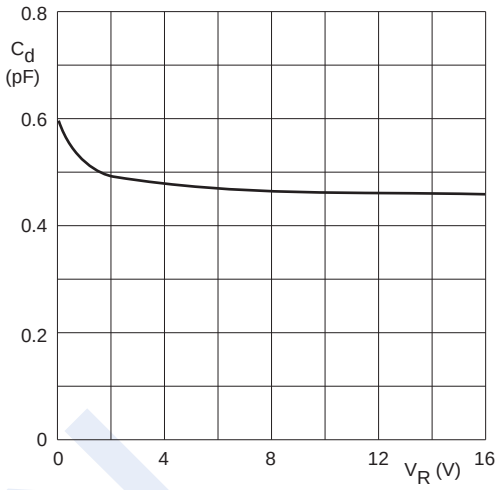


Fig.5 Reverse current as a function of junction temperature.



f = 1 MHz; T_j = 25 °C.

Fig.6 Diode capacitance as a function of reverse voltage; typical values.