LITE-ON SEMICONDUCTORS

BAS516

SURFACE MOUNT
FAST SWITCHING DIODE

REVERSE VOLTAGE – 75 Volts
FORWARD CURRENT – 0.25 Ampere

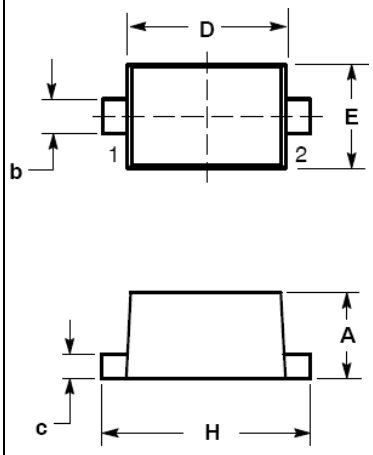
FEATURES

- Fast switching speed
- Low reverse leakage current

MECHANICAL DATA

- Case: SOD-523 Plastic
- Case material: “Green” molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl)
- Moisture sensitivity: Level 1 per J-STD-020D
- Lead free in RoHS 2002/95/EC compliant

SOD-523



SOD-523		
Dim.	Min.	Max.
A	0.50	0.77
b	0.25	0.35
c	0.07	0.20
D	1.10	1.30
E	0.70	0.90
H	1.50	1.70
Dimensions in millimeter		

Maximum Ratings & Thermal Characteristics @ T_A = 25℃ unless otherwise specified

Characteristic	Symbol	BAS516	Units
Repetitive Peak Reverse Voltage	V_{RRM}	85	V
Continuous Reverse Voltage	V_R	75	V
Forward Continuous Current @ Ts=90℃ (Note1)	I_{FM}	250	mA
Peak Forward Surge Current @t=1s	I_{FSM}	0.5	A
Repetitive Peak Forward Current	I_{FRM}	0.5	A
Total Power dissipation @ Ts=90℃ (Note1)	Ptot	500	mW
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{STG}	-55~+150	℃

Note: Ts is the temperature at the soldering point of the cathode tab.

Electrical Characteristics @ T_A = 25℃ unless otherwise specified

Characteristic	Test Condition	Symbol	BAS516	Unit
Maximum Forward Voltage	I_F = 150mA	V_F	1.25	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	V_R = 75V	I_R	1	uA
Typical Diode Capacitance	V_R =0V,f=1MHz	C_D	1	pF
Reverse Recovery time	V_R=6V, I_R=I_F=10mA R_L=100Ω	trr	4	ns

REV. 0, Dec-2013, KSYR97

RATING AND CHARACTERISTIC CURVES
BAS516

Fig.1 Maximum continuous forward current vs.soldering point temperature

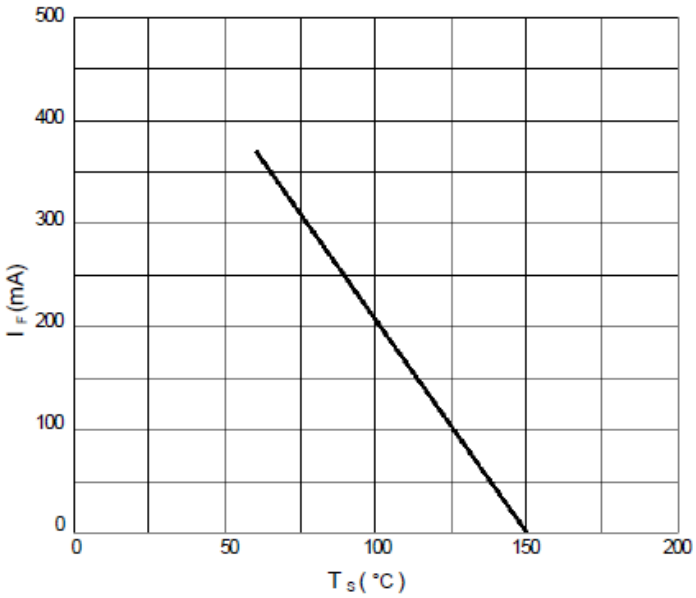


Fig.2 Typical Forward Characteristics

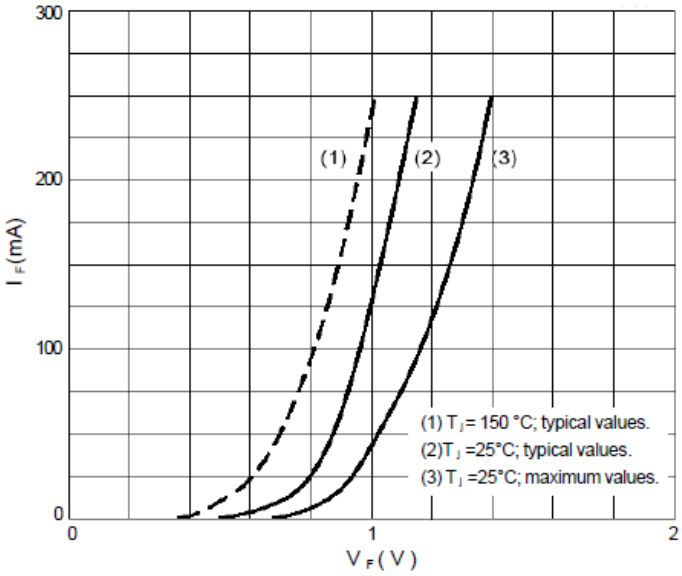


Fig.3 Non-repetitive peak forward current

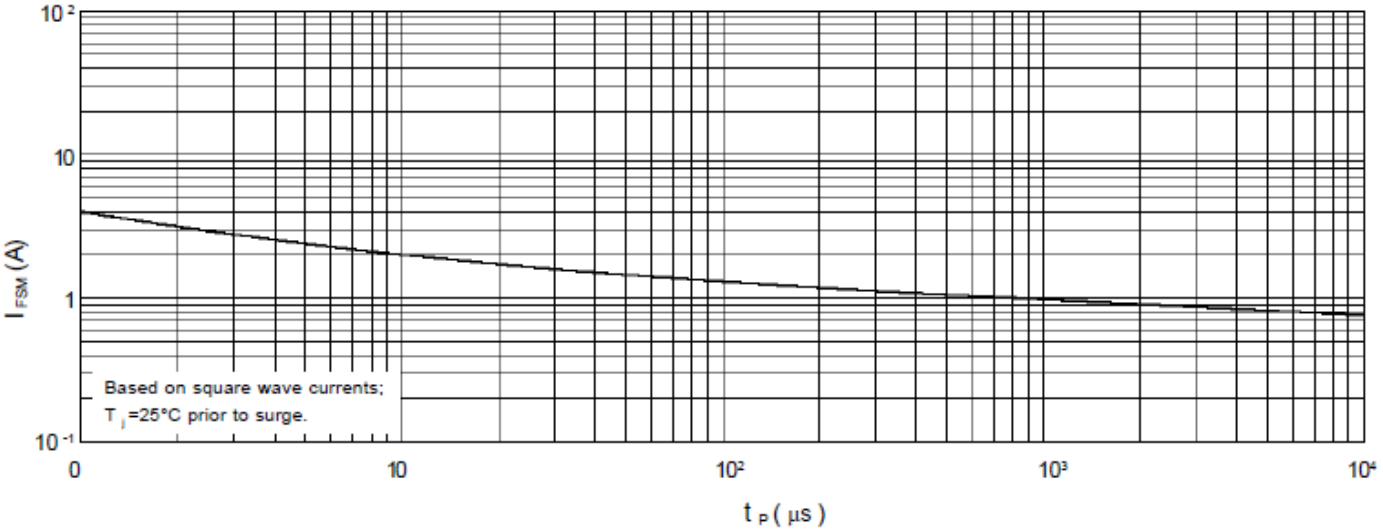


Fig.4 Reverse Current Characteristics

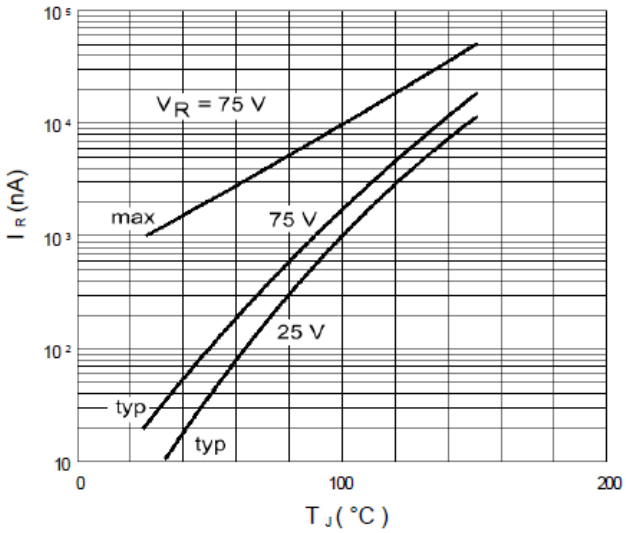


Fig.5 Capacitance Charactersitics

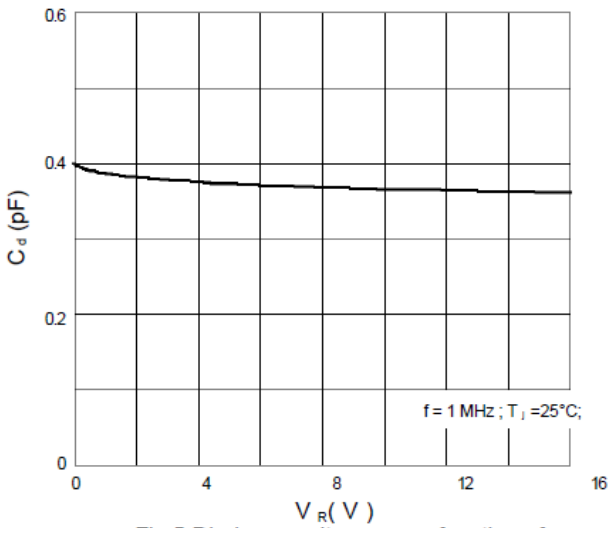
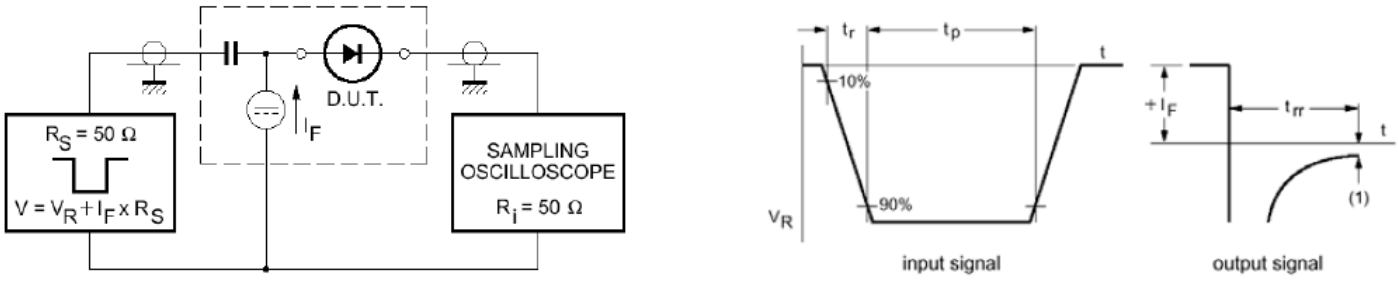
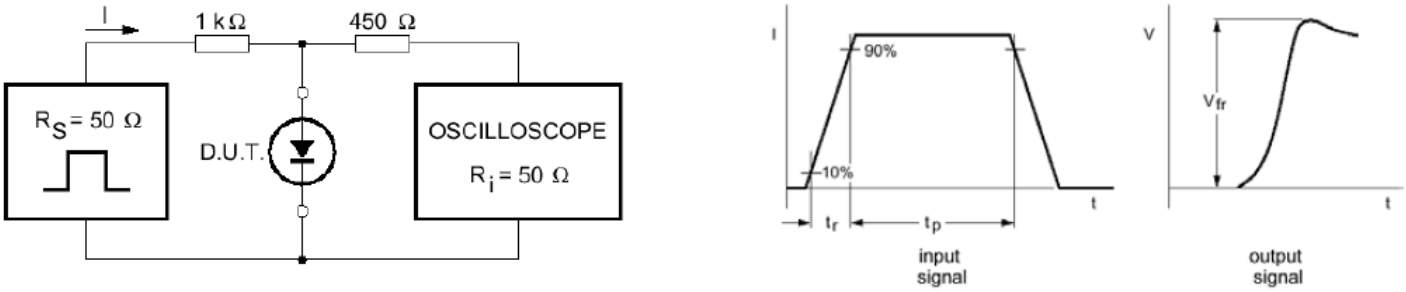


Fig.6 Reverse recovery voltage test circuit and waveforms.



(1) I_R = 1 mA.
Input signal: reverse pulse rise time t_r = 0.6 ns; reverse voltage pulse duration t_p = 100 ns; duty factor δ = 0.05;
Oscilloscope: rise time t_r = 0.35 ns.

Fig.7 Forward recovery voltage test circuit and waveforms.



Input signal: forward pulse rise time t_r = 20 ns; forward current pulse duration $t_p \geq$ 100 ns; duty factor δ ≤ 0.005.

Device Marking:

Device P/N	Marking code	Equivalent Circuit Diagram
BAS516	6	1 ○—▶|— ○ 2

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