DATA SHEET

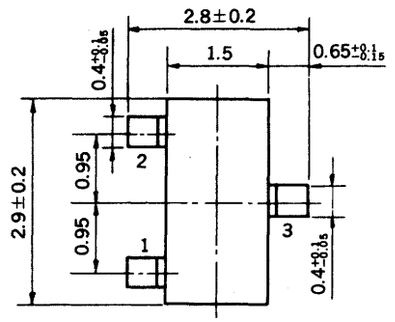
NEC

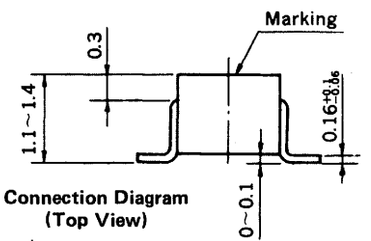
SILICON SWITCHING DIODE

1SS123

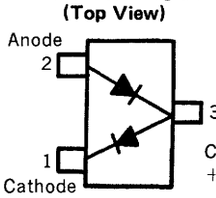
HIGH SPEED SWITCHING
SILICON EPITAXIAL DOUBLE DIODES : SERIES CONNECTED
MINI MOLD

PACKAGE DIMENSIONS
in millimeters





Connection Diagram (Top View)



Marking : A7

FEATURES

- Low capacitance: C_t = 4.0 pF MAX.
- High speed switching: t_{rr} = 9.0 ns MAX.
- Wide applications including switching, limitter, clipper.
- Double diode configuration assures economical use.

ABSOLUTE MAXIMUM RATINGS

Maximum Voltages and Currents (T_a = 25 °C)

Peak Reverse Voltage	V_{RM}	70	V
DC Reverse Voltage	V_R	70	V
Peak Forward Current	I_{FM}	200	mA
Average Rectified Current	I_O	100	mA
DC Forward Current	I_F	100	mA

Maximum Temperatures

Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	−55 to +150	°C

Thermal Resistance

Junction to Ambient*	$R_{th(j-a)}$	1.0	°C/mW
Junction to Ambient	$R_{th(j-a)}$	0.67	°C/mW

* Both diodes loaded simultaneously.

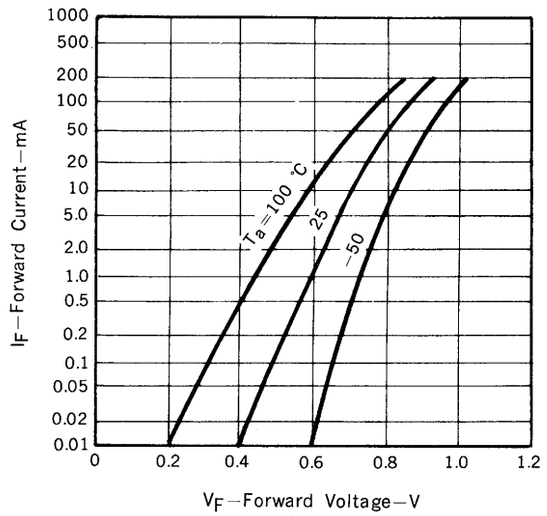
ELECTRICAL CHARACTERISTICS (T_a = 25 °C)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Forward Voltage	V_{F1}		600	715	mV	I_F = 1.0 mA
	V_{F2}		750	855	mV	I_F = 10 mA
	V_{F3}		850	1100	mV	I_F = 50 mA
	V_{F4}		900	1300	mV	I_F = 100 mA
Reverse Current	I_R			1.0	μA	V_R = 70 V
Capacitance	C_t		2.5	4.0	pF	V_R = 0, f = 1.0 MHz
Reverse Recovery Time	t_{rr}			9.0	ns	I_F = 10 mA, V_R = 1 V, R_L = 100 Ω See test circuit.
Forward Recovery Voltage	V_{fr}			1.75	V	I_F = 10 mA See Test Circuit.

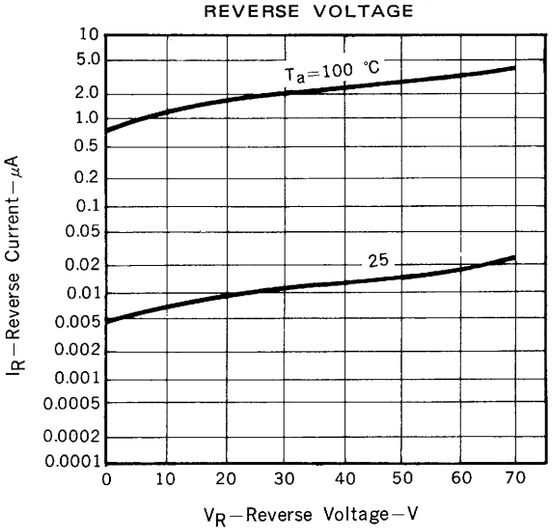
Document No. D16317EJ4V0DS00 (4th edition)
(Previous No. DC-1053A)
Date Published July 2002 N CP(K)
Printed in Japan

TYPICAL CHARACTERISTICS (T_a = 25 °C)

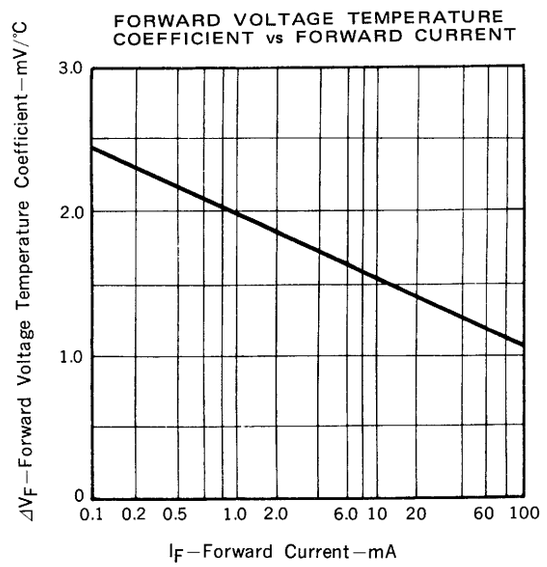
FORWARD CURRENT vs.
FORWARD VOLTAGE



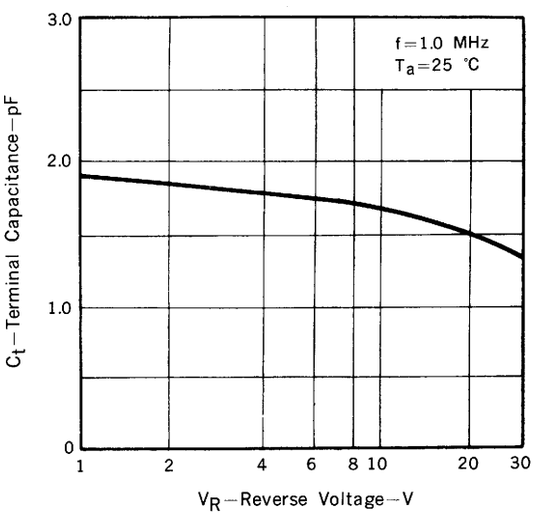
REVERSE CURRENT vs.
REVERSE VOLTAGE



FORWARD VOLTAGE TEMPERATURE
COEFFICIENT vs FORWARD CURRENT

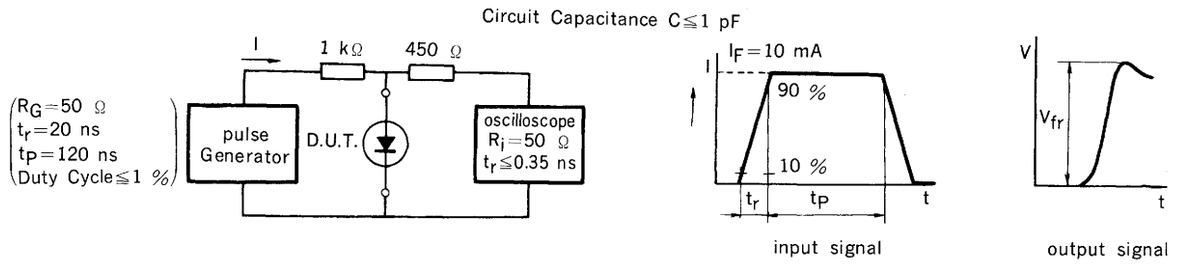


TERMINAL CAPACITANCE vs.
REVERSE VOLTAGE



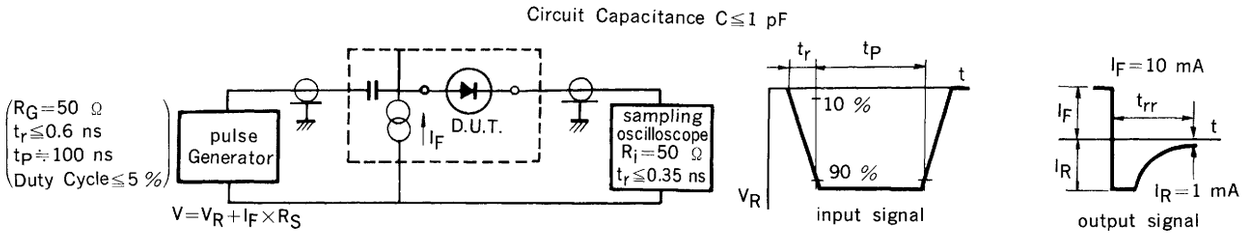
SWITCHING CHARACTERISTICS TEST CIRCUIT

Forward recovery voltage : V_{fr}



Test circuit　　Wave forms

Reverse recovery time : t_{rr}



Test circuit　　Wave forms

I_F = 10 mA, V_R = 1.0 V