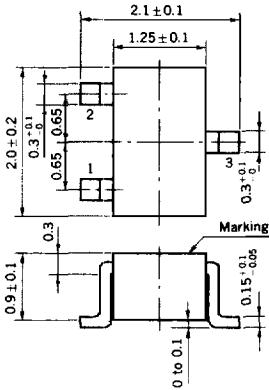


# SILICON SWITCHING DIODE

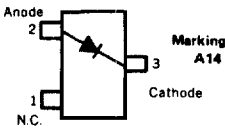
## 1SS305

### HIGH SPEED SWITCHING SILICON EPITAXIAL DIODE

#### PACKAGE DIMENSIONS in millimeters



#### Connection Diagram (Top View)



#### FEATURES

- Low capacitance:  $C_t = 4.0$  pF MAX.
- High speed switching:  $t_{rr} = 3.0$  ns MAX.
- Wide applications including switching, limiter, clipper.

#### ABSOLUTE MAXIMUM RATINGS

Maximum Voltages and Currents ( $T_a = 25^\circ\text{C}$ )

Peak Reverse Voltage	$V_{RM}$	100	V
DC Reverse Voltage	$V_R$	100	V
Peak Forward Current	$I_{FM}$	300	mA
Average Rectified Current	$I_O$	100	mA
DC Forward Current	$I_F$	100	mA

#### Maximum Temperatures

Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to +150	$^\circ\text{C}$

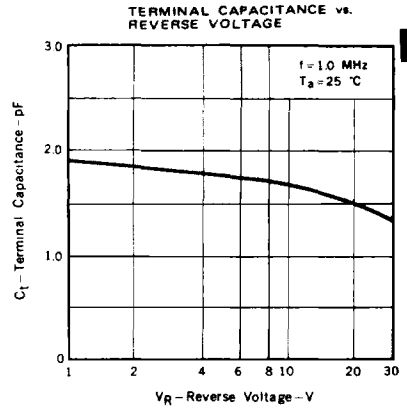
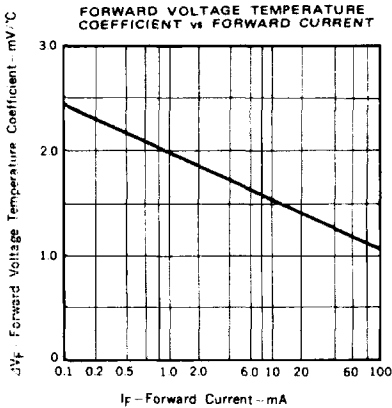
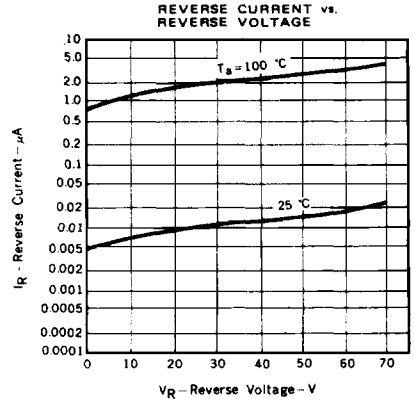
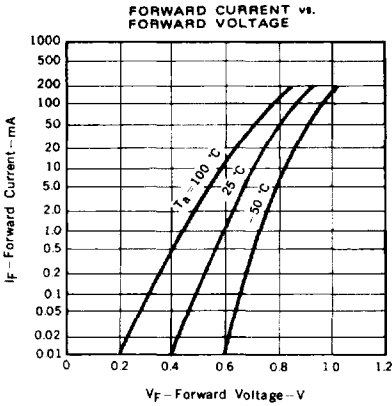
#### Thermal Resistance

Junction to Ambient	$R_{th(j-a)}$	0.85	$^\circ\text{C}/\text{mW}$
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#### ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Forward Voltage	$V_{F1}$		720	850	mV	$I_F = 10$ mA
	$V_{F2}$		850	1000	mV	$I_F = 50$ mA
	$V_{F3}$		950	1200	mV	$I_F = 100$ mA
Reverse Current	$I_R$			1.0	$\mu\text{A}$	$V_R = 100$ V
Capacitance	$C_t$		2.0	4.0	pF	$V_R = 0$ , $f = 1.0$ MHz
Reverse Recovery Time	$t_{rr}$			3.0	ns	$I_F = 10$ mA, $V_R = 6$ V, $R_L = 100 \Omega$ . See Test Circuit.

TYPICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )



5

SWITCHING CHARACTERISTICS TEST CIRCUIT

Reverse recovery time :  $t_{rr}$

