SONY

1T379

Silicon Variable Capacitance Diode for Electronic Tuning of BS and CS Tuners
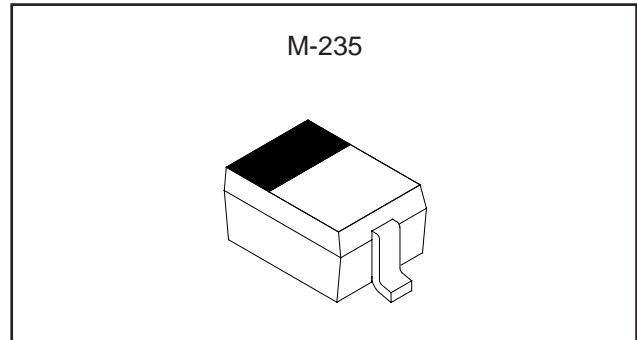
Description

The 1T379 is a variable capacitance diode designed for the electronic tuning of BS and CS tuners, and it has a super miniature package.

Features

- Super miniature package
- Small series resistance 1.50 Ω Max. (f=470 MHz)
- Large capacitance ratio 12.0 Typ. (C_1/C_{25})
- Small capacitance 0.60 pF Max. (V_R=25 V)

Structure

Silicon epitaxial planar-type diode
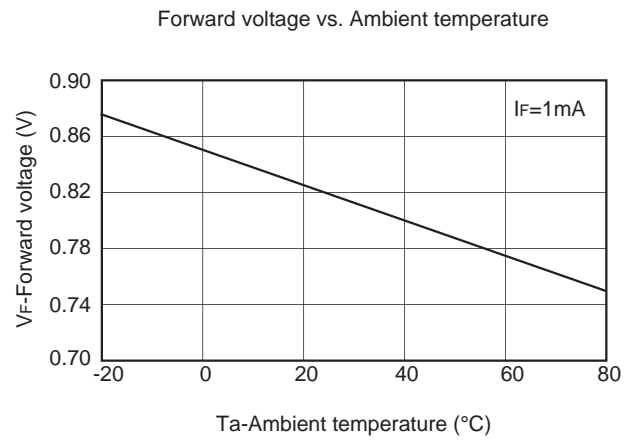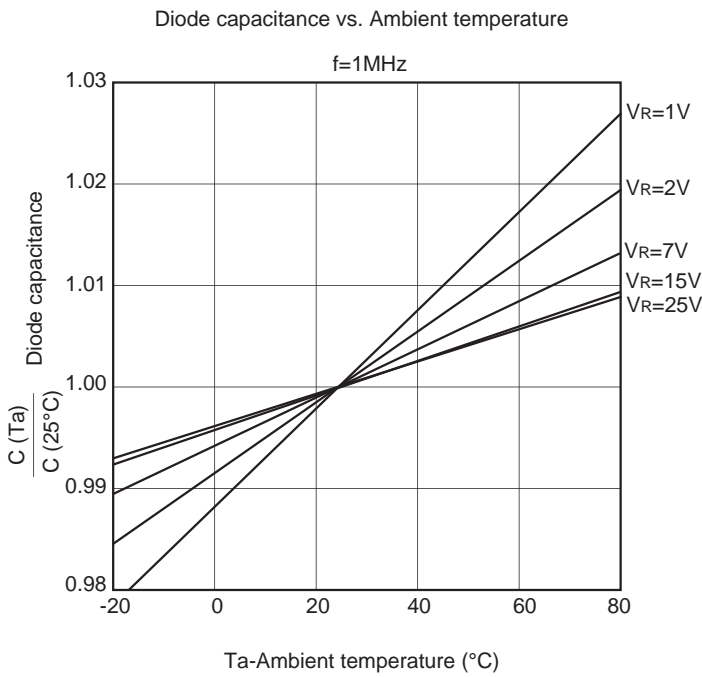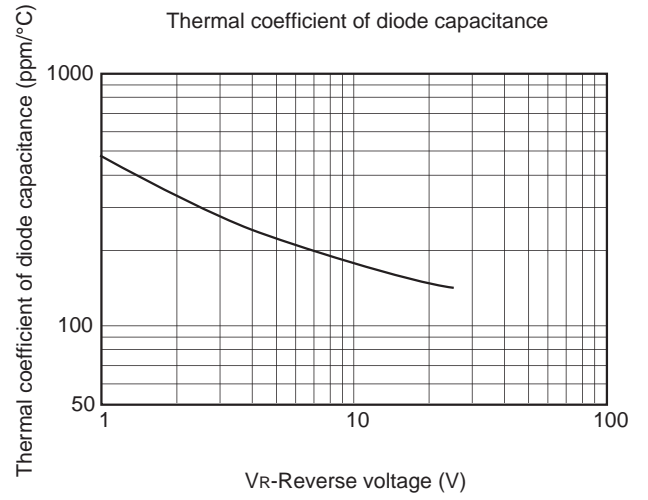
M-235

Absolute Maximum Ratings (Ta=25 °C)

- Reverse voltage V_R 30 V
- Maximum reverse voltage V_{RM} 35 V
  (R$_L \geq$10 kΩ)
- Operating temperature Topr −20 to +75 °C
- Storage temperature Tstg −65 to +150 °C

Electrical Characteristics

(Ta=25 °C)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Reverse current	I_R	V_R=25 V			10	nA
Reverse voltage	V_R	I_R=1 µA	30			V
Diode capacitance	C_1	V_R=1 V, f=1 MHz	6.0		7.2	pF
	C_{25}	V_R=25 V, f=1 MHz	0.5		0.6	pF
Capacitance ratio	C_1/C_{25}	f=1 MHz	10.0	12.0		
Series resistance	rs	V_R=5 V, f=470 MHz			1.50	Ω
Capacitance deviation in a matching group	ΔC	V_R=1 to 25 V, f=1 MHz			6	%

E94205B82-TE

Diode capacitance vs. Reverse voltage

f=1MHz Ta=25°C

C-Diode capacitance (pF) vs. V_R-Reverse voltage

Thermal coefficient of diode capacitance

Thermal coefficient of diode capacitance (ppm/°C) vs. V_R-Reverse voltage (V)

Diode capacitance vs. Ambient temperature

f=1MHz

$\dfrac{C(Ta)}{C(25°C)}$ Diode capacitance vs. Ta-Ambient temperature (°C)

V_R=1V
V_R=2V
V_R=7V
V_R=15V
V_R=25V

Forward voltage vs. Ambient temperature

I_F=1mA

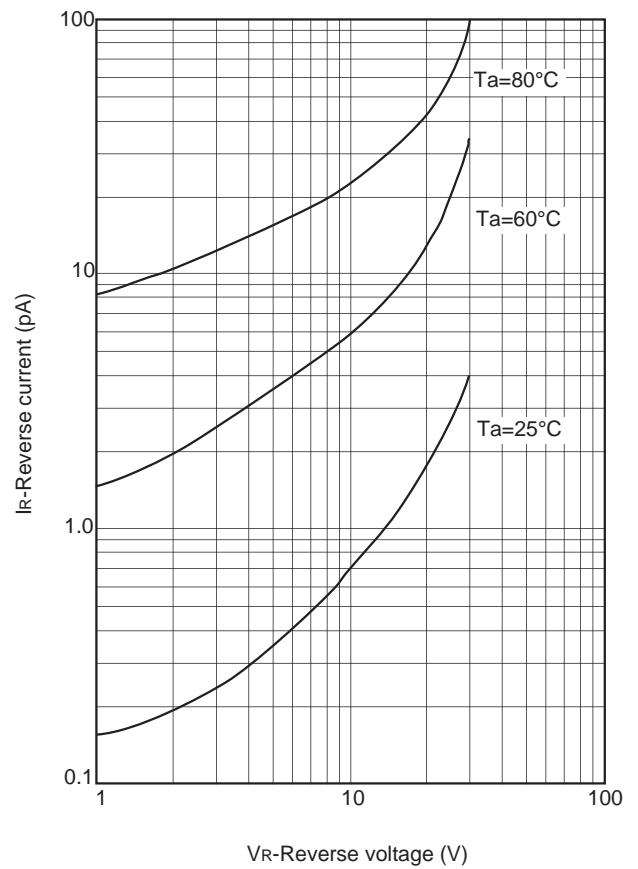V_F-Forward voltage (V) vs. Ta-Ambient temperature (°C)
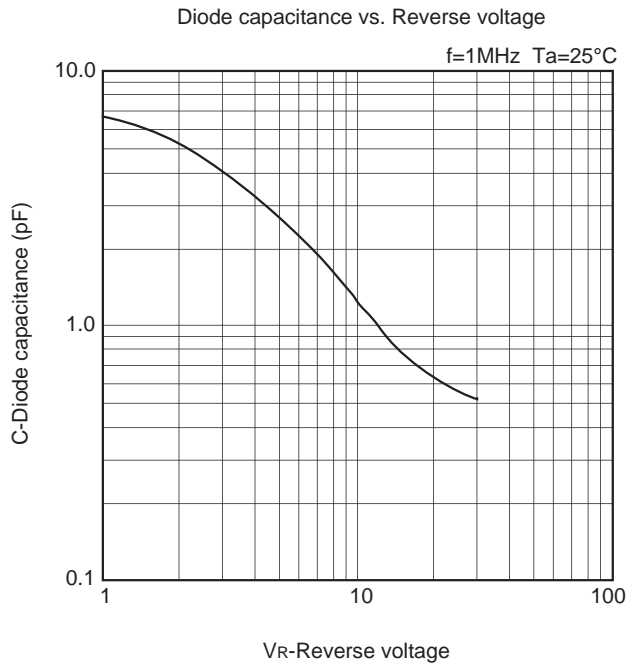
Reverse voltage vs. Ambient temperature
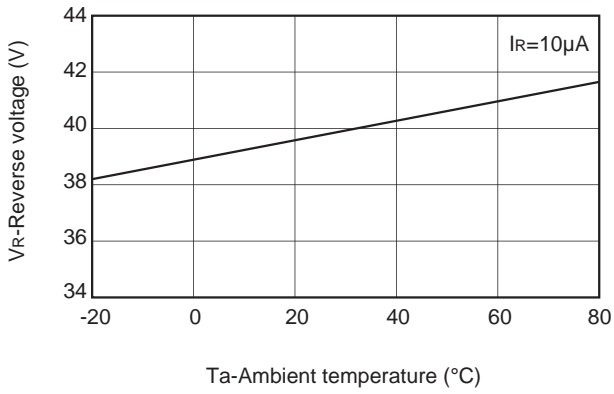
Reverse current vs. Ambient temperature
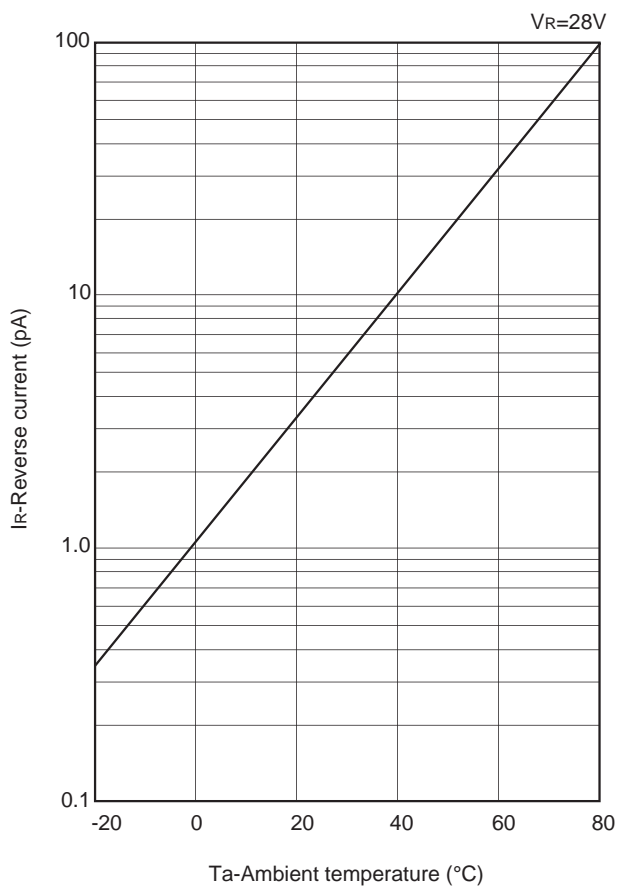
Reverse current vs. Reverse voltage
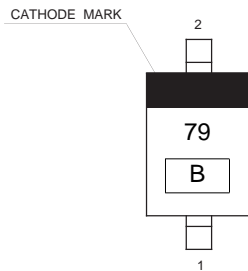
Package Outline   Unit : mm

M-235

+ 0.2
∗1.25 − 0.1

+ 0.1
0.3 − 0.05

2

∗1.7 ± 0.1

2.5 ± 0.2

1

+ 0.1
0.3 − 0.05

∗0.9 ± 0.1

0.2

0 ± 0.05

+ 0.1
0.11 − 0.06

0° to 10°
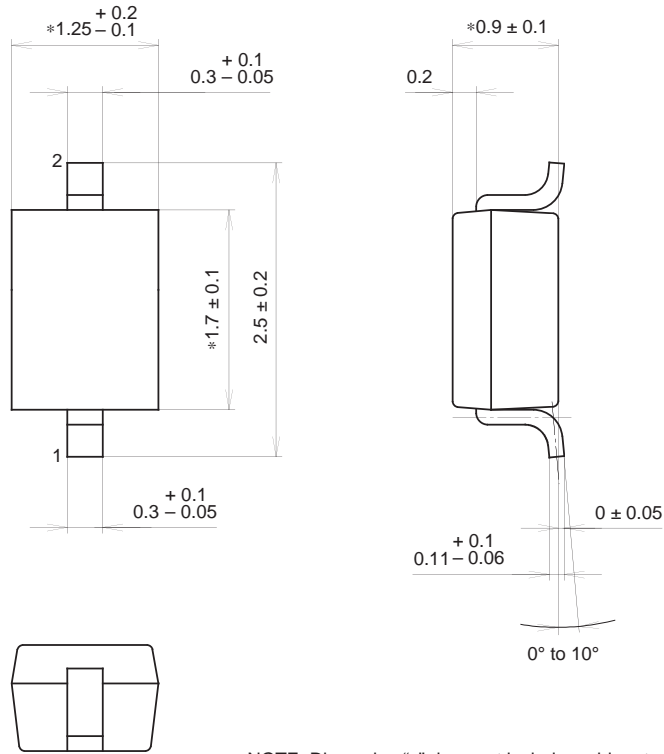
NOTE: Dimension "∗" does not include mold protrusion.

SONY CODE	M-235
EIAJ CODE	————
JEDEC CODE	————

PACKAGE WEIGHT	0.1g

Marking

CATHODE MARK

2

79

B

1

Notes
1) B:Lot No.(Year and Month of manufacture)
    Year;Last one digit
    Month;A,B,C(for Oct. to Dec.)
        1 to 9(for Jan.to Sept.)