

SONY

1T365

Silicon Variable Capacitance Diode

Description

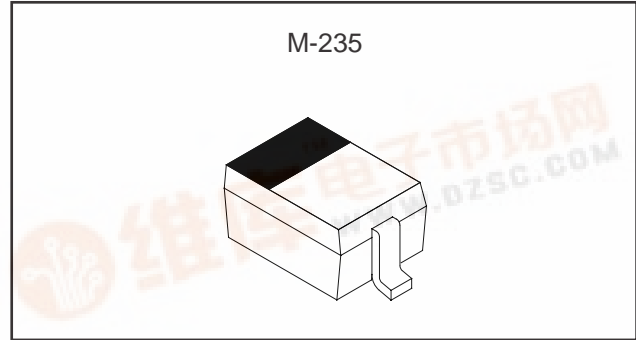
The 1T365 is a variable capacitance diode contained in super miniature package, and used for electronic-tuning of BS tuner.

Features

- Super miniature package
- Small capacitance 0.7 pF Typ. ($V_R=25\text{ V}$)
- Low leakage current 10 nA Max. ($V_R=28\text{ V}$)
- Small serial resistance 1.1 Ω Typ. ($V_R=1\text{ V}$, $f=470\text{ MHz}$)

Structure

Silicon epitaxial planar type diode



Absolute Maximum Ratings ($T_a=25\text{ }^\circ\text{C}$)

- Reverse voltage V_R 30 V
- Maximum reverse voltage V_{RM} 35 V ($R_L \geq 10\text{ k}\Omega$)
- Operating temperature T_{opr} $-20\text{ to }+75\text{ }^\circ\text{C}$
- Storage temperature T_{stg} $-65\text{ to }+150\text{ }^\circ\text{C}$

Electrical Characteristics

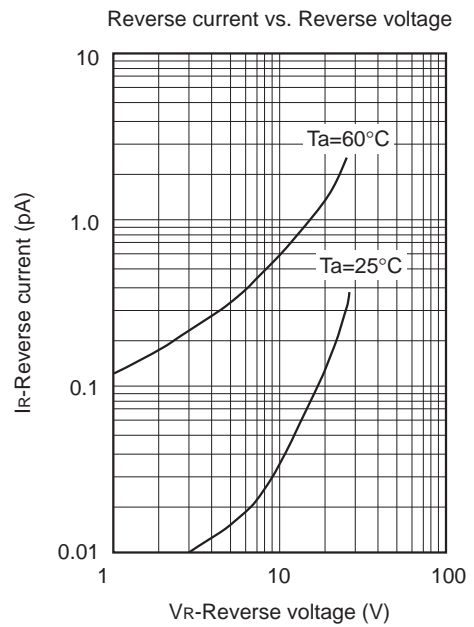
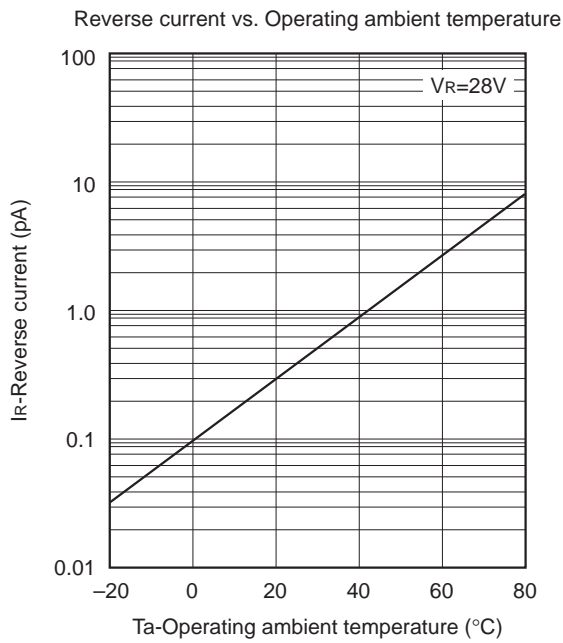
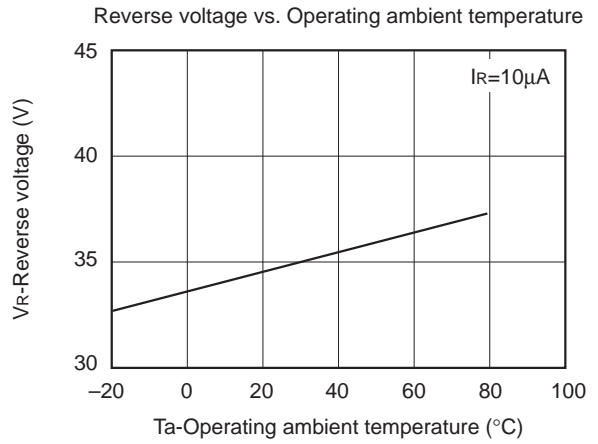
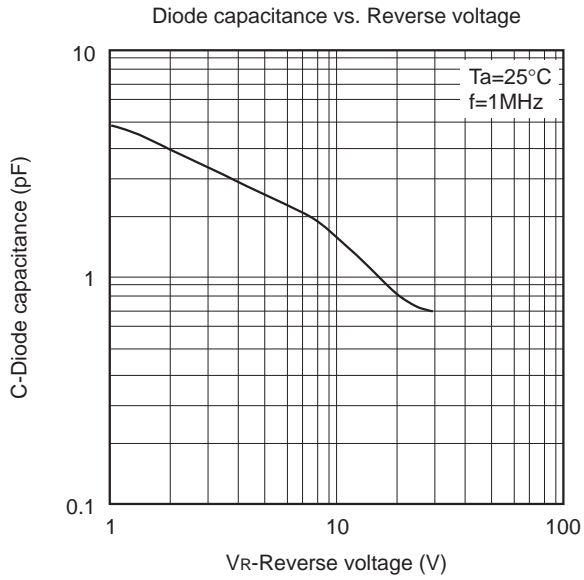
($T_a=25\text{ }^\circ\text{C}$)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Reverse current	I_R	$V_R=28\text{ V}$			10	nA
Diode capacitance	C_2	$V_R=2\text{ V}$, $f=1\text{ MHz}$	3.31		4.55	pF
	C_{25}	$V_R=25\text{ V}$, $f=1\text{ MHz}$	0.61	0.70	0.77	pF
Capacitance ratio	C_2/C_{25}		5.0	5.7		
Serial resistance	r_s	$V_R=1\text{ V}$, $f=470\text{ MHz}$		1.1	1.8	Ω
Capacitance deviation in a matching group	ΔC	$V_R=2\text{ to }25\text{ V}$, $f=1\text{ MHz}$			5.0	%

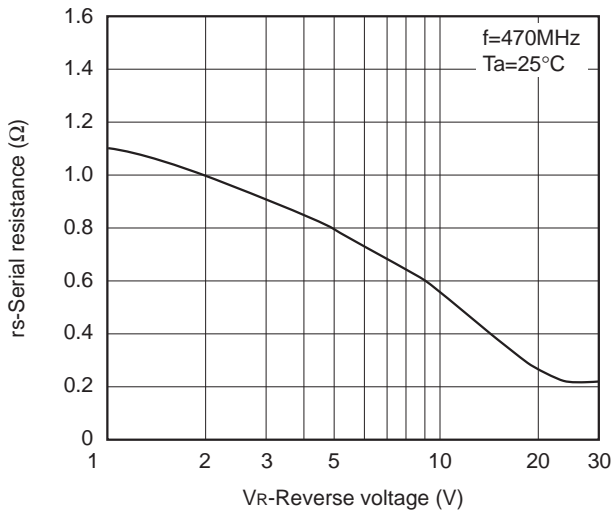
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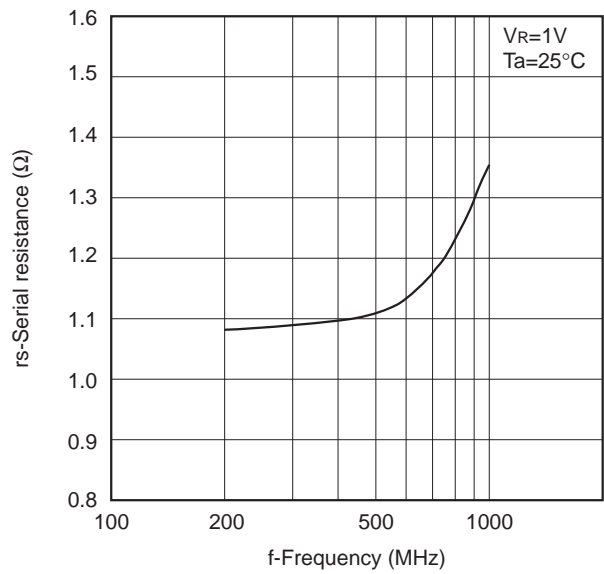
Example of Representative Characteristics



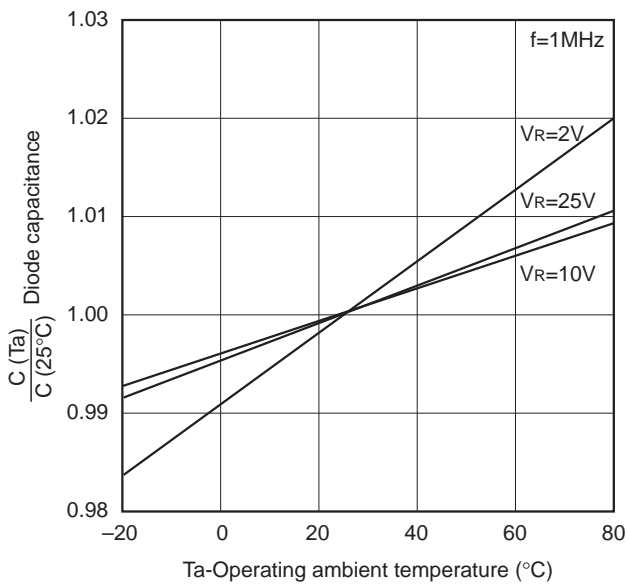
Serial resistance vs. Reverse voltage



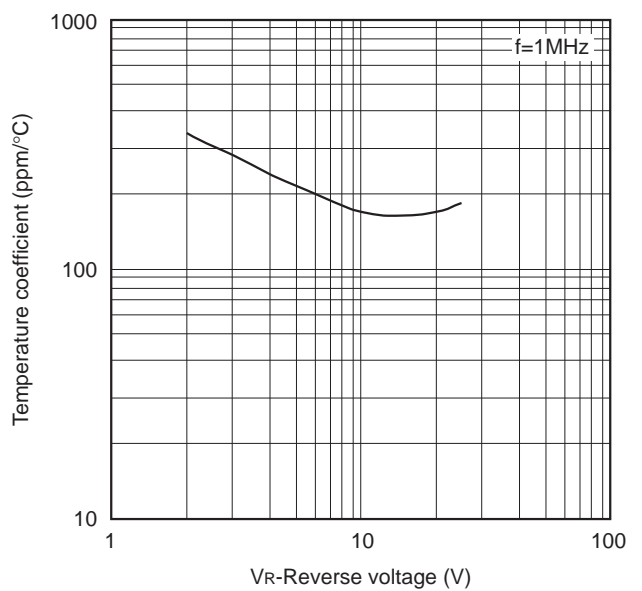
Serial resistance vs. Frequency



Diode capacitance vs. Operating ambient temperature

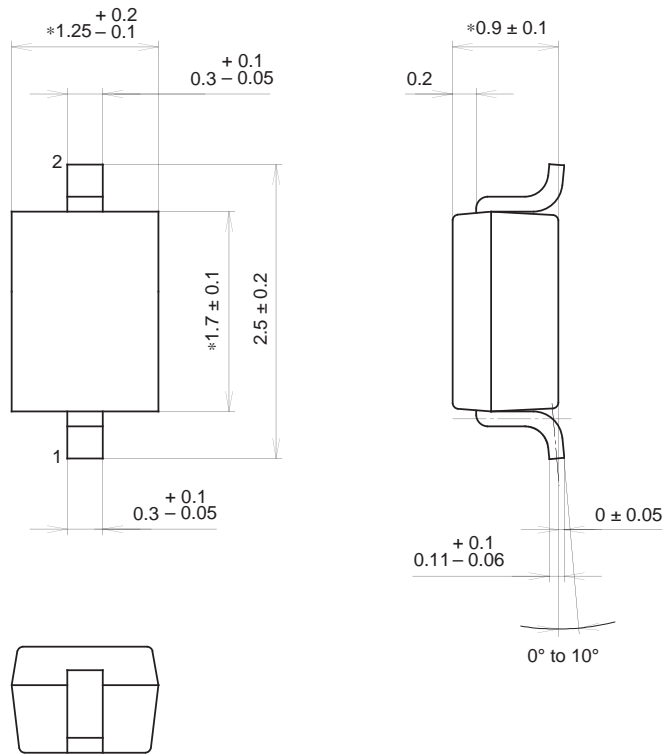


Temperature coefficient of diode capacitance



Package Outline Unit : mm

M-235

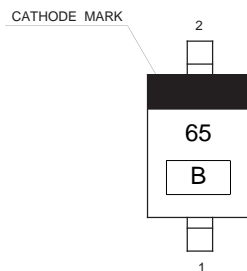


NOTE: Dimension "*" does not include mold protrusion.

SONY CODE	M-235
EIAJ CODE	—
JEDEC CODE	—

PACKAGE WEIGHT	0.1g
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Marking



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.)