Silicon Variable Capacitance Diode

Description

1T360 is a variable capacitance diode designed for the tuning of wide band multichannel CATV tuners.

Features

- Miniature package
- Low series resistance 0.80Ω Typ.(f=470MHz)
- Capacitance ratio 12.5 Typ. (C_2/C_{25})
- Small leakage current 10nA Max.(V_R=28V)
- Capacitance deviation within 2%
- 1T360-T7 and 1T360-T8 are for taping.

Structure

Silicon epitaxial planer type diode

Application

- Electronic tuning of wide band CATV tuners.

Absolute Maximum Ratings (Ta=25°C)

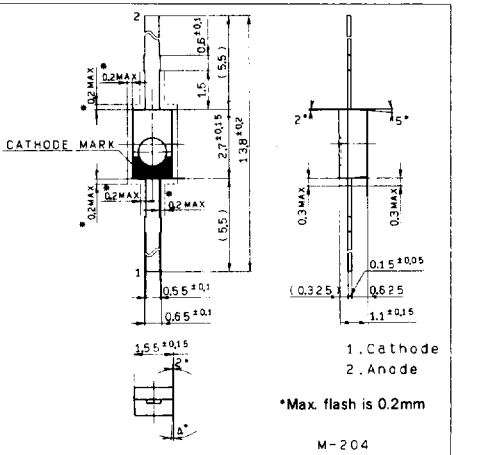
• Reverce voltage	V_R	30	V
• Peak reverse voltage	V_{RM}	35	V
			(R_L≧10kΩ)
• Storage temperature	T_{stg}	−55 to +150	°C
• Operating temperature	T_{opr}	85	°C

Recommended Operating Conditions

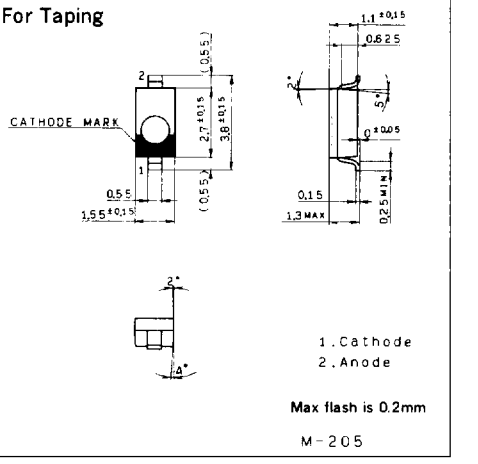
• Operating temperature	T_{opr}	−20 to +75	°C

Package Outline

Unit: mm



For Taping

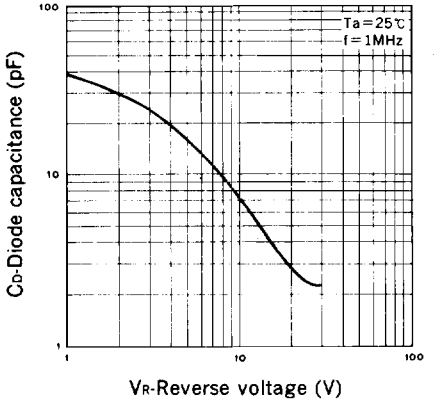


Electrical Characteristics (Ta=25°C)

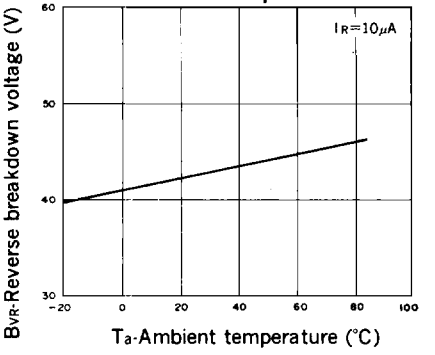
Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse current	I_R	V_R=28V			10	nA
Diode capacitance	C_2	V_R=2V, f=1MHz	28.0	31.25	34.0	pF
	C_{25}	V_R=25V, f=1MHz	2.30	2.5	2.65	pF
Capacitance ratio	C_2/C_{25}	f=1MHz	11.5	12.5		
Serial resistance	rs	C_D=14pF, f=470MHz		0.80	1.00	Ω
Capacitance deviation in a matching group	ΔC	V_R=2 to 25V f=1MHz			2	%

80427A-HP

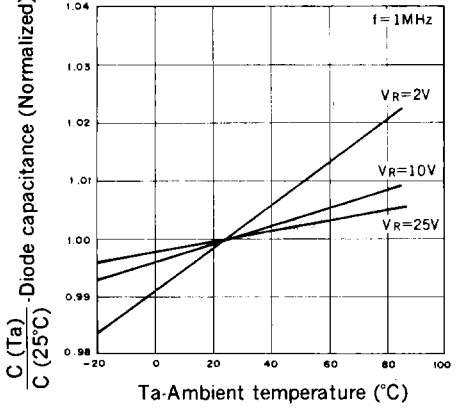
Diode capacitance vs. Reverse voltage



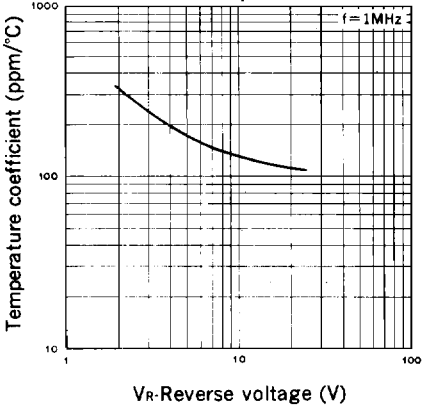
Reverse breakdown voltage vs. Ambient temperature



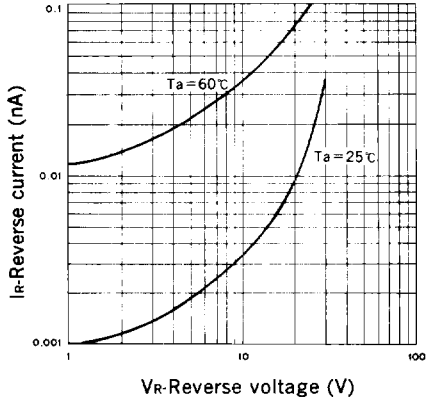
Diode capacitance vs. Ambient temperature



Temperature coefficient of the diode capacitance



Reverse current vs. Reverse voltage



Reverse current vs. Ambient temperature