

Variable capacitance diode for communications equipment

通信機器用電圧可変容量ダイオード

KV1870R/S

FEATURES


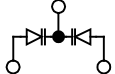

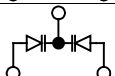
- Very Low Operating Voltage: $V_{OP}=1.0$ to $4.5V$
- Excellent Linearity of The CV Curve
- Extra Large Capacitance Ratio: $A=5.00$ to
- Extra Low Series Resistance: $R_S=0.43\Omega$ (typ.)
- 低電圧動作: $V_{OP}=1.0$ to $4.5V$
- CV特性の優れた直線性
- 極めて大きな容量変化比: $A=5.00\sim$
- 極めて低い直列抵抗: $R_S=0.43\Omega$ (typ.)

CLASSIFICATION

Rank		1	2	3
C	MIN	65.80	68.27	70.74
C ₁	MAX	69.25	71.72	74.20

PACKAGE OUTLINE

ORDERING INFORMATION

Part name	Package	Marking	Pin configuration	Ordering information
KV1870R	 SOT23C-3	C7		KV1870RTL...Storage direction: TL(Left type)
KV1870S	 SOT23-3	C7		KV1870STL...Storage direction: TL(Left type)

ABSOLUTE MAXIMUM RATINGS

Parameter	項目	Symbol	記号	Rating	定格	Unit	単位	Remarks	備考
Reverse Voltage	逆方向電圧	V_R		18		V			
Forward Current	順方向電流	I_F		50		mA			
Power Dissipation	許容消費電力	P_D		100		mW			
Storage Temperature Range	保存温度範囲	T_{STG}		-55 to 150		°C			
Operating Temperature Range	動作温度範囲	T_{OP}		-55 to +85		°C			

ELECTRICAL CHARACTERISTICS

$T_A=25^\circ C$

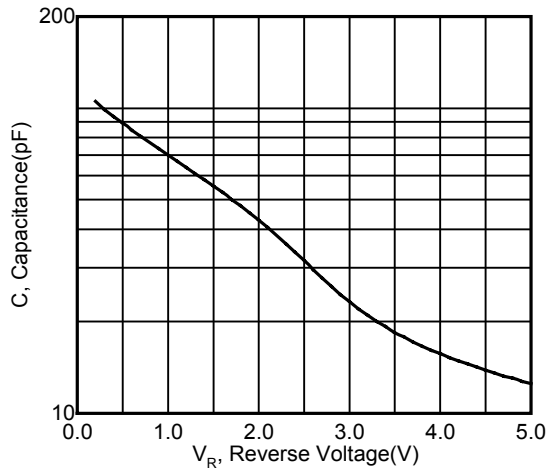
Parameter 項目	Symbol 記号	Value			Units 単位	Conditions 条件	
		MIN	TYP	MAX			
Reverse Voltage	逆方向電圧	V_R	16		V	$I_R=10\mu A$	
Reverse Current	逆方向電流	I_R		50.0	nA	$V_R=10V$	
Diode Capacitance	容量値	C_1	65.80	70.00	74.20	pF	$V_R=1V, f=1MHz$
		$C_{4.5}$	12.00	13.40	14.80	pF	$V_R=4.5V, f=1MHz$
Series Resistance	直列抵抗	R_S		0.43	0.50	Ω	$V_R=1.5V, f=100MHz$
Capacitance Ratio	容量変化比	A	5.00				C_1/C_5

- * Capacitance measured in parallel connections.
容量値は、Back to Back Typeの2つのダイオードの平均値です。
- * Diode Capacitance measured with Agilent 4279A or equivalent instruments (at OSC level $20\pm 5mVrms$)
容量測定器は、Agilent 4279A又は相当品。OSCレベル $20\pm 5mVrms$ 。
- * Resistance meter is Agilent 4291B or equivalent instruments.
直列抵抗測定器は、Agilent 4291B又は相当品。

TYPICAL CHARACTERISTICS

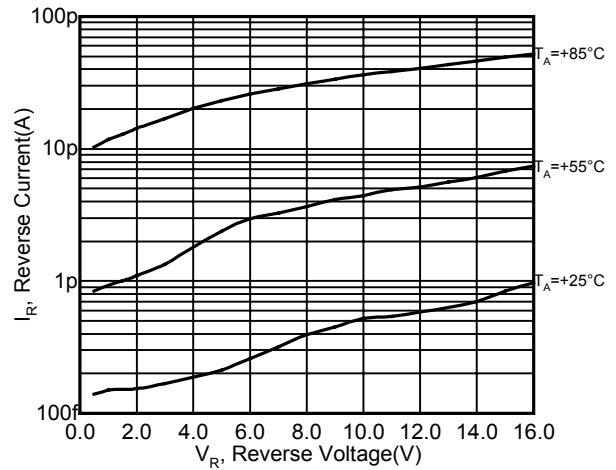
Capacitance versus Reverse Voltage
逆方向電圧対容量

f=1MHz, T_A=25°C



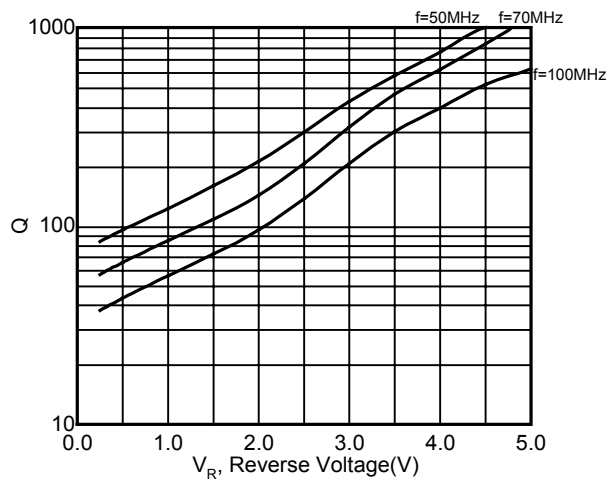
Reverse Current versus Reverse Voltage
逆方向電圧対逆電流

T_A=+25 / +55 / +85°C



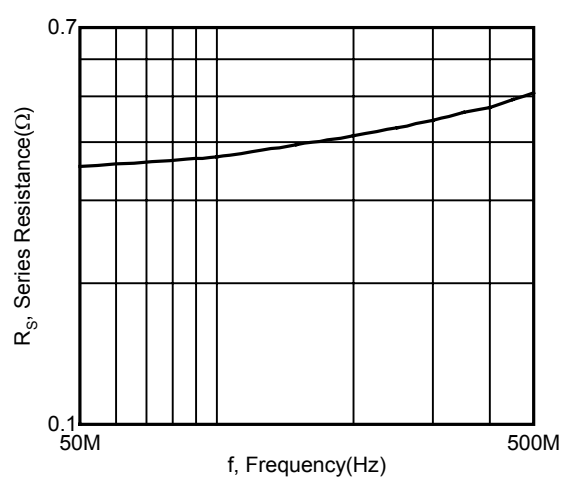
Q versus Reverse Voltage
逆方向電圧対Q

T_A=25°C



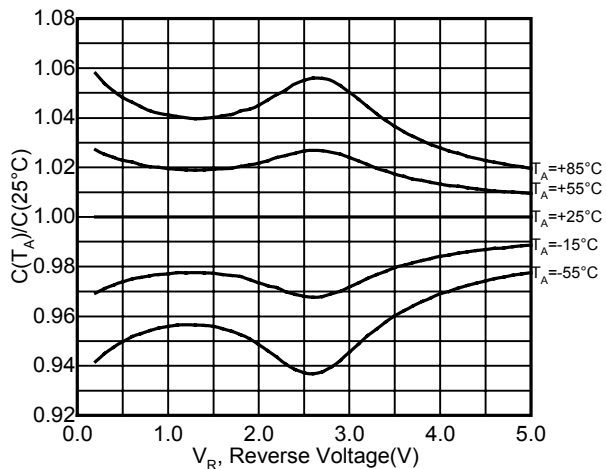
Series Resistance versus Frequency
周波数対直列抵抗

V_R=1.5V, T_A=25°C



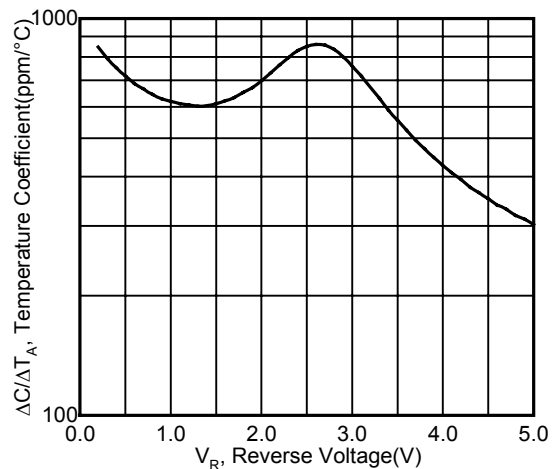
C(T_A)/C(25°C) versus Reverse Voltage
逆方向電圧対C(T_A)/C(25°C)

f=1MHz T_A=-55 to +85°C



Capacitance Temperature Coefficient versus Reverse Voltage
逆方向電圧対温度係数

f=1MHz, T_A=25°C



- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11