

Variable capacitance diode for AM tuning

AMチューナ用電圧可変容量ダイオード

KV1520, KV1520NT

FEATURES

- Included twin element
- Very low operating voltage: $V_{OP}=1.0$ to $6.5V$
- Excellent matching between elements
- Excellent linearity of the CV curve
- High Q: $Q=200$ to
- Extra large Capacitance Ratio: $A=20.0$ to
- ツインタイプ素子1組搭載
- 低電圧動作: $V_{OP}=1.0\sim 6.5V$
- 優れた素子間マッチング
- CV特性の優れた直線性
- 高いQ値: $Q=200\sim$
- 極めて大きな容量変化比: $A=20\sim$

CLASSIFICATION


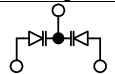

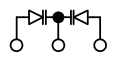
Rank		1	2	3
		C		
C ₁	MIN	335	353	371
	MAX	359	377	395

ORDERING INFORMATION

- KV1520TL...Storage direction: TL(Left type)
- KV1520NT

* Part name + Storage direction

PACKAGE OUTLINE

Part name	Package	Marking	Pin configuration
KV1520	 SOT23L-3	A2	
KV1520NT	 TO92-3	520	

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	20	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 規格			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	nA	$V_R=10V$	
Diode Capacitance	容量値	C_1	335.0	360.0	395.0	pF	$V_R=1V, f=1MHz$
		C_3		100.0		pF	$V_R=3V, f=1MHz$
		$C_{6.5}$	14.0	15.9	17.8	pF	$V_R=6.5V, f=1MHz$
Capacitance Tolerance	容量偏差	ΔC_1			1.0	%	$V_R=1V, f=1MHz^{*1}$
		ΔC_3			2.0	%	$V_R=3V, f=1MHz^{*1}$
		$\Delta C_{6.5}$			2.0	%	$V_R=6.5V, f=1MHz^{*1}$
Q		Q	200			$V_R=1.2V, f=1MHz$	
Capacitance Ratio	容量変化比	A	20.0			$C_1/C_{6.5}$	

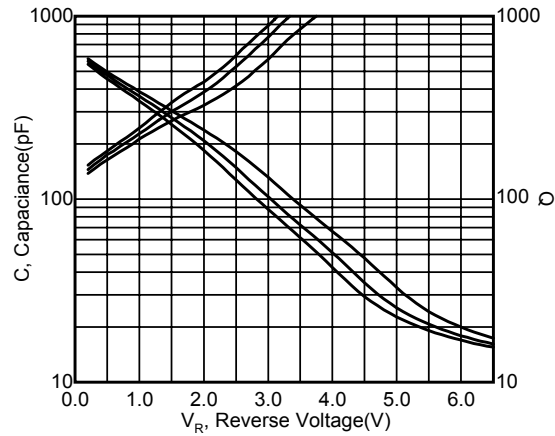
* Diode Capacitance measured with Agilent 4279A or equivalent instruments (at OSC level $20\pm 5mVrms$)
容量測定器は、Agilent 4279A又は相当品。OSCレベル $20\pm 5mVrms$ 。

*1 $(C_{MAX}-C_{MIN})/C_{MIN}\times 100$

TYPICAL PREFORMANCE CHARACTERISTICS

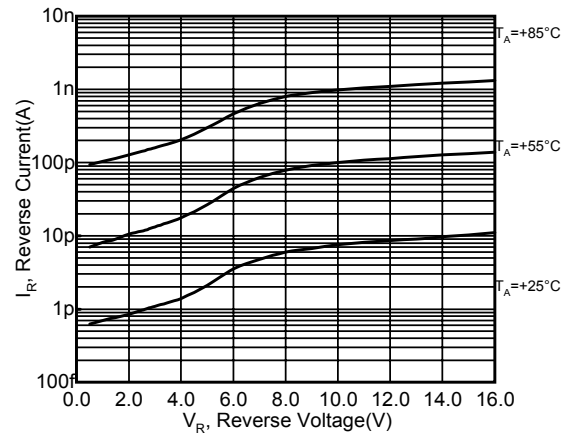
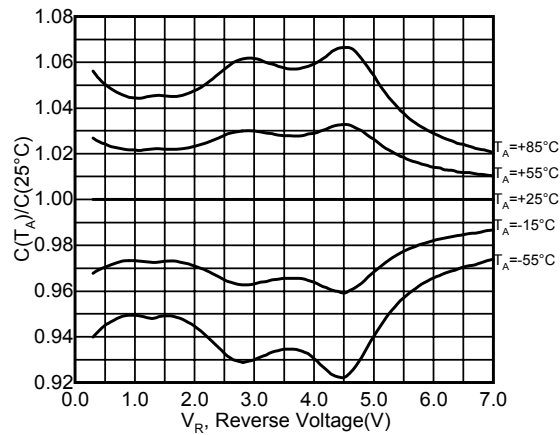
■ Capacitance, Q versus Reverse Voltage

逆方向電圧対容量、Q

f=1MHz, $T_A=25^\circ\text{C}$ 

■ Reverse Current versus Reverse Voltage

逆方向電圧対逆電流

 $T_A=+25 / +55 / +85^\circ\text{C}$ ■ $C(T_A)/C(25^\circ\text{C})$ versus Reverse Voltage逆方向電圧対 $C(T_A)/C(25^\circ\text{C})$ f=1MHz $T_A=-55$ to $+85^\circ\text{C}$ 

■ Capacitance Temperature Coefficient versus Reverse Voltage

逆方向電圧対温度係数

f=1MHz, $T_A=25^\circ\text{C}$ 