

SPECIFICATION

KV1320

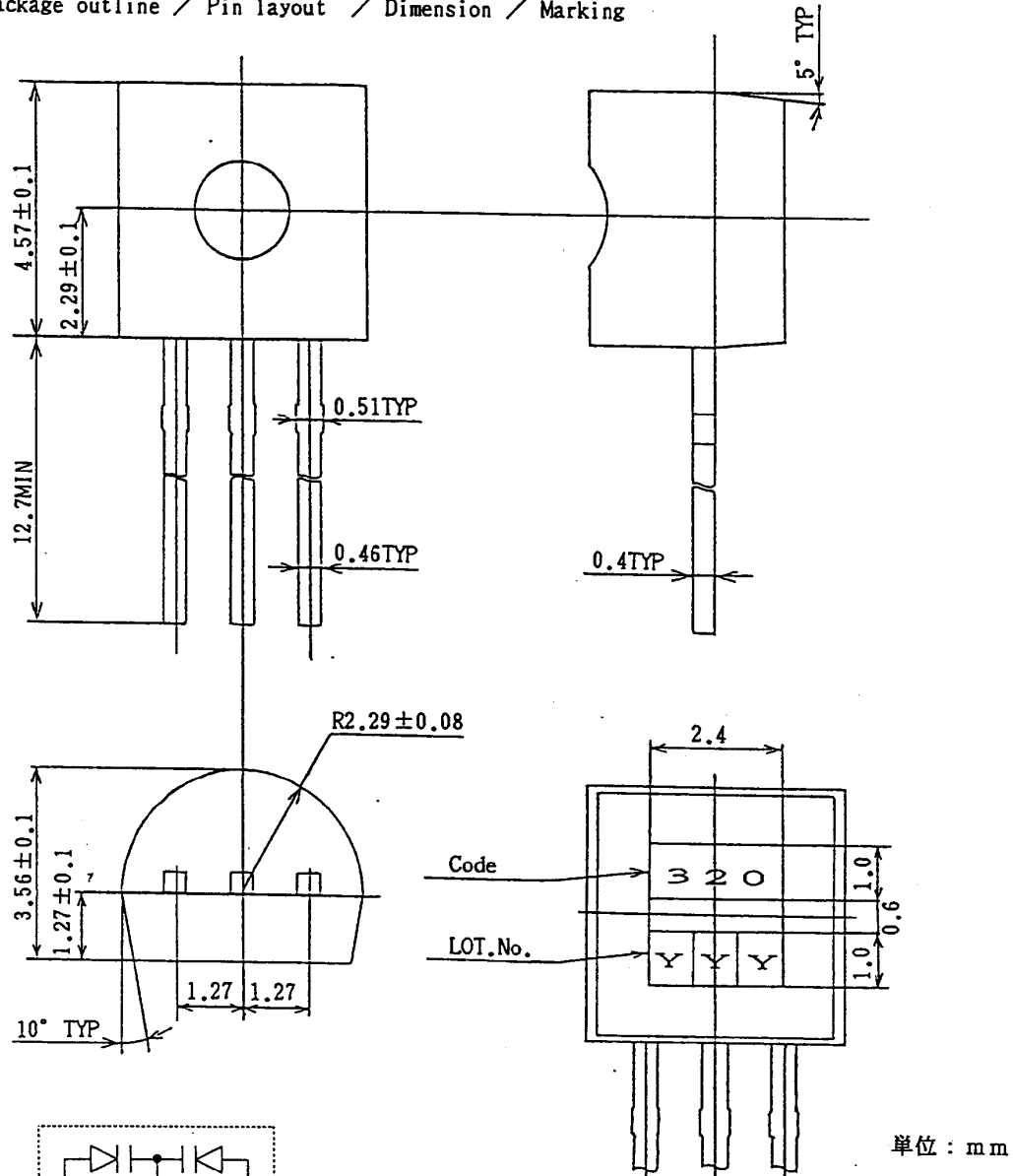
Date of Issue

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TOKO Inc.	TOKO P/No. KV1320	Drawing No. DB3-B041	1/4	REV

1. Purpose	This Part Drawing defines the requirements for Silicon Variable Capacitance Diode.
2. TOKO Part Number	KV1320
3. Application	FM Radio etc.
4. Structure	Silicon Epitaxial Planar Diode
5. Package outline / Pin layout / Dimension / Marking	



Item	Material
Package	To-92 Package
Lead Flame	194 Alloy
Lead coating	Solder coating

6. Absolute maximum ratings.

Parameter	Symbol	Rating	Unit	Conditions
Reverse voltage	V_R	30	V	$T_a = 25^\circ\text{C}$
Forward current	I_F	50	mA	
Power dissipation	P_D	100	mW	
Storage temperature	T_{stg}	$-55 \sim +150$	$^\circ\text{C}$	
Operating temperature	T_{op}	$-55 \sim +80$	$^\circ\text{C}$	
In-output frequency	f_{MAX}	600	MHz	

7. Electrical characteristics. (Condition: $T_a = 25^\circ\text{C}$)

7-1. Electrical characteristics.

Parameter	Symbol	min	typ	max	Unit	Conditions
Reverse voltage	V_R	30			V	$I_R = 10 \mu\text{A}$
Reverse current	I_R			100	nA	$V_R = 25\text{V}$
Diode capacitance	C7	79.59		92.32	pF	$V_R = 7\text{V}$, $f = 1\text{MHz}$
	C13	48.51		57.39	pF	$V_R = 13\text{V}$, $f = 1\text{MHz}$
	C19	34.65		40.99	pF	$V_R = 19\text{V}$, $f = 1\text{MHz}$
	C25	27.86		32.97	pF	$V_R = 25\text{V}$, $f = 1\text{MHz}$
Inter-terminal Capacitance Tolerance	ΔC			3	%	$V_R = 7, 13, 19, 25\text{V}$
Series Resistance	R_S			0.5	Ω	$V_R = 7\text{V}$, $f = 70\text{MHz}$
Temperature Coef.	TC_c		150		ppm/ $^\circ\text{C}$	$V_R = 10\text{V}$
Capacitance ratio	A	2.57	2.8	3.03		$C7/C25$, $f = 1\text{MHz}$

Notes : 1. Capacitance given above is measured in parallel connections.

2. Capacitance measured with YHP 4279A or equivalent instruments.
(at Level $20\text{mV} \pm 5\text{V}_{rms}$)

3. Series resistance measured with YHP 4191A or equivalent instruments.

4. KV1320-3 ; Parts to be packed in the multiple quantity of three.
KV1320-4 ; Parts to be packed in the multiple quantity of four.
KV1320-5 ; Parts to be packed in the multiple quantity of five.
KV1320-6 ; Parts to be packed in the multiple quantity of six.

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7 - 2. Grouping

(Unit : pF)

No.	1	2	3	4	5	6	7	8	9	A	B	C	
C7	min	89.63	87.87	86.15	84.46	82.80	81.18	79.59					
	max	92.32	90.51	88.73	86.99	85.28	83.62	81.98					
C13	min				55.72	54.63	53.56	52.51	51.48	50.47	49.48	48.51	
	max				57.39	56.27	55.17	54.09	53.02	51.98	50.96	49.97	
C19	min					39.80	39.02	38.25	37.50	36.77	36.05	35.34	34.65
	max					40.99	40.19	39.40	38.62	37.87	37.13	36.40	35.69
C25	min				32.01	31.38	30.76	30.16	29.57	28.99	28.42	27.86	
	max				32.97	32.32	31.68	31.06	30.46	29.86	29.27	28.70	

Example of Group Numbering

C7-C13-C19-C25

4-9-9-7

Note : Measurement error within 0.3pF may cause the change of capacitance rank.

8. Outgoing Inspection

These inspections below are performed prior to outgoing our product.

- 8 - 1. 100% Inspection for the electrical characteristics in paragraph 7.
- 8 - 2. External Visual Inspection.
- 8 - 3. Q.A. Sampling Inspection.

(AQL 0.15% Usually Level II normal sampling for 8-1 and 8-2)

9. Others

In the event of emergence of any doubt concerning this "Specifications", both parties shall settle such doubt through considerations.

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