

VARIABLE-CAPACITANCE DIODES (IOCAP)

Low-voltage and high-voltage variable capacitance diodes are available for both of AM electronic tuning use and FM electronic tuning use.

Features

- *High capacitance ratio
- *Single type and twin type available
- *Good linearity
- *High Q
- *Small-sized package

$$\blacklozenge: \Delta C_m = \frac{C_{max} - C_{min}}{C_{min}} \times 100, \quad \star: \Delta C_m = \frac{C_{Dn} - C_{D3}}{C_{D3}} \times 100.$$

AM Electronic Tuning Use (Ta=25°C) FM Electronic Tuning Use (Ta=25°C)

Type No. ():Marking	Package	Absolute Maximum Ratings V _R (V)	Electrical Characteristics		
			V _R (V)	C (PF) min max	ΔC _m max ◆ (%)
SVC321SPA	SPA	16	1.2 8	388.1~459.1 20.3~27.05	3
SVC323	SPA	16	1 8	462.8~536.7 21.12~27.05	3
SVC325(TV)	CP	16	1.2 8	388.1~459.1 20.3~27.05	-
SVC341(VA)	PCP	16	1 9	423~503 17.5~23.5	2
SVC342	NP	16	1 9	423~503 17.5~23.5	2
SVC343(VC)	PCP	30	1	410~445	2
SVC344	NP	30	4.5	21~26	2
SVC345(VB)	PCP	33	1	460~540	2
SVC346	NP	33	6.5	21~27	2
SVC347(V1)	CPH3	16	1	470~525	2.5
SVC348	SPA	16	8	20~26	2.5
SVC353	MFP6	16	1	460~540	★±2.5
SVC354			8	21~27	★±2.5
SVC363	SOP8	16	1	428~500	★±2.5
SVC364			8	20.5~27	★±2.5
SVC371	SOP8	16	1	460~540	2.5
SVC372			8	470~525 19~26 20~26	

Type No. ():Marking	Package	Absolute Maximum Ratings V _R (V)	Electrical Characteristics		
			V _R (V)	C (PF) min max	ΔC _m max ◆ (%)
SVC201SPA	SPA	16	1.6 7.5	28.19~37.45 10.17~12.99	5
SVC202SPA	SPA	16	1.6 7.5	28.19~37.45 10.17~12.99	5
SVC203SPA	SPA	16	3 8	36.92~43.03 12.64~16.84	3
SVC203CP(AV)	CP	16	1 9	58.8~65.98 10.84~13.4	6.5 11.8
SVC208(AV)	CP	16	3 8	36.92~43.03 12.77~16.84	3
SVC211SPA	SPA	32	3 25	37~42 14.8~18.2	-
SVC220(OV)	CP	16	2 8	44~46.5 25.1~28.2	3
SVC231(RV)	CP	16	2 8	43.89~50.02 17.65~21.5	3
SVC232(RV)※	CP	16	2 8	43.89~50.02 17.65~21.5	-
SVC233(SV)	CP	16	1 4.5	62.02~68.79 21.45~28.27	3
SVC234(SV)※	CP	16	1 6.5	62.02~68.79 13.42~16.03	-
SVC241()	CP	16	2 8	typ 70 typ 21.9	3
SVC253(NV)※	CP	16	1 9	51~76 9.5~15.5	-

Other Use

(FM, AFC, telephone, CB transceiver) (Ta=25°C)

SVC251SPA	SPA	12	1.6	23 ~ 38	rs 0.6Ω
SVC252(HV)	CP	16	5	11 ~ 19	

Pin Diodes (for VHF, UHF, AGC) (Ta=25°C)

except PCP with C=0.7PF(Typ)

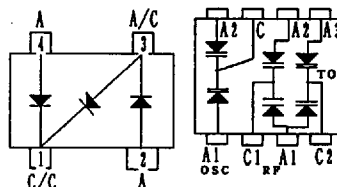
All products are with VR=50V, C=0.23PF(Typ.)

except CP(1SV272) with C=0.6PF(Typ)

Package	Connect- ion type	r s (typ)					():Marking
		Conditions: IF=10mA, f=100MHz				IF=50mA, f=470MHz	
		2.5 Ω	4.5	5 Ω	7.5 Ω	0.5 Ω	
MCP	Single Series	1SV263(JV) 1SV264(KV)	1SV248(FV) 1SV249(GV)	1SV247(BV) 1SV246(CV)	*1SV315(NV)	For antenna SW	
CP	Single Series	1SV266(JV) 1SV267(KV)	1SV250(FV) 1SV251(GV)	1SV233(BV) 1SV234(CV)	1SV294(PV)	1SV272(MV)	
CP4	Composed of three diodes.				1SV298(QV)		
CP5	Parallel	1SV265(LV)		1SV241(EV)			
PCP	Single				1SV268(VD)		

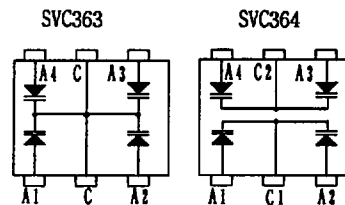
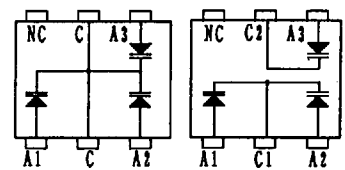
Underlined type Nos. are before mass production.
*(1SV315): For variable resistance attenuators.

NC: No Contact, A: Anode, C: Cathode.
1SV298 SVC371, 372



Type Nos. with a ※ sign are for AM band up-conversion.
Electrical connection

SVC211, 202, 203CP,
SVC203SPA, 208,
SVC220, 231, 232,
SVC233, 234, 241, 341,
SVC342, 343, 344,
SVC345, 346, 347, 348.



SVCs except for the products with electrical connection shown above are single type.

These specifications are subject to change without notice.

SANYO Discrete Device Package Outlines (unit:mm)

Small-Signal Transistors

Outlines name SSFP, SMCP, MCP, MCP4/6, CP, CP4/5/6, CPH3/5/6, PCP, PCP4/5, XP5/6, TP, TP-FA, MFP6, TSSOP8, SOP8, SPA, NP, MP, NMP, FLP, TO-126, TO-126ML, TO-126LP

Large-Signal Transistors

ZP, SMP, SMP-FD, TO-220, TO-220C1, TO-220ML, TO-220FI (LS), TO-220MF, TO-3PB, TO-3PML, TO-3PBL, TO-3JML

SANYO Transistor Package Name List.

Surface Mount Types

SSFP Super Small Flat Package
 SMCP Super Mini Chip Pack.
 MCP Mini Chip Pack.
 MCP4/6 Mini Chip Pack. (FH type)
 CP Chip Pack.
 CP5/6 Chip Pack. (FC type)
 CPH3/5/6 * Chip Pack high-power
 PCP Power Chip Pack.
 PCP4/5 Power Chip Pack. (FP type)
 XP (FX type)
 TSSOP8 (FTS, FTD type)
 SOP8 (FW, FSS type)
 TP-FA Tiny Package
 SMP-FD For large signal
 ZP For large signal

Lead Types

NMP New MP
 FLP Full Mold Large Package
 TO-126LP Large-Power
 TO-126ML Micaless
 TO-220, 220ML ML:Micaless type
 TO-220C1 CI:Compact Isolation
 TO-220FI (LS) Full Isolation (leade short type)
 TO-220MF Mini Fin Short fin type.
 TO-3PB, 3PML Bushless, ML:Micaless
 TO-3PBL Micaless
 TO-3PBL Bushless Large
 TO-3JML Jumbo Micaless

PB, BL:no insulating needed.

Notes

Nomenclature of house Nos.
 The first several letters of the type Nos. of the FSS, FTD, FW, FTS, FC, FP, FH, series mean:

- 1'st F : Packages for complex type devices. (CP5/6, MCP4/6, PCP4/5, XP5/6, SOP8, TSSOP8)
- 2'nd S: SOP8 package
- 2'nd W: Double chips
- 2'nd T: TSSOP8 package
- 2'nd C: CP5/6 package
- 2'nd P: PCP4/5 package
- 2'nd X: XP5/6 package
- 2'nd D: Dual type
- 2'nd H: Ultra high freq. type
- 3'rd S: Single

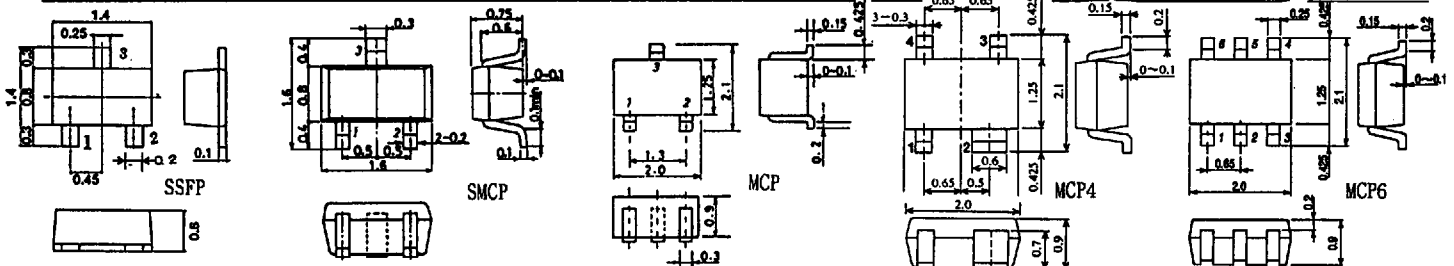
Type Nos. of 1XX or 1XXX are p-channel types.
 Type Nos. of 2XX or 2XXX are N-channel types.
 XP package is excluded.

*:How to name CPH3/6 devices. Package name followed by 1, 2, 3 or 4 and then tow-digit consecutive Nos. Figures following the package names mean: 1:PNP Tr, 2:NPN Tr, 3:P-ch MOSFET, 4:N-ch MOSFET.

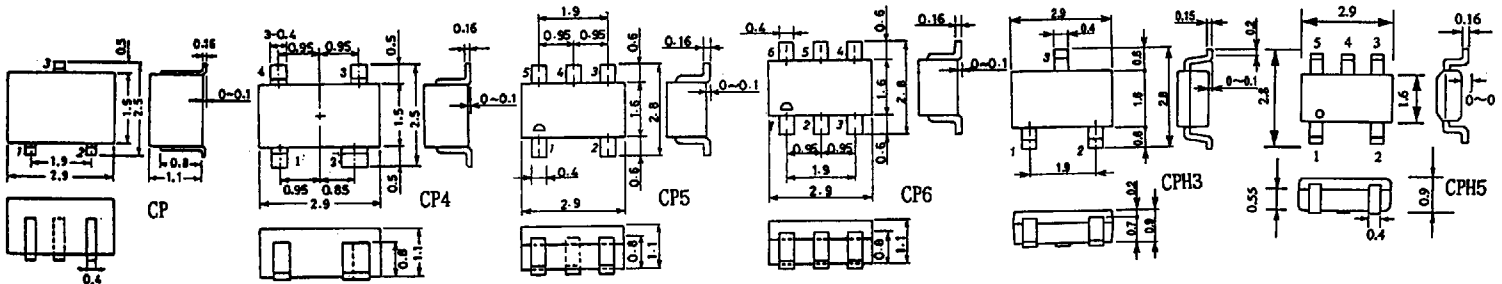
Surface Mount Type Outlines (JEDEC and EIAJ name are in parentheses.)

Top View Pin Nos. of top view are CAD register Nos. Bottom side : Heat sink side.

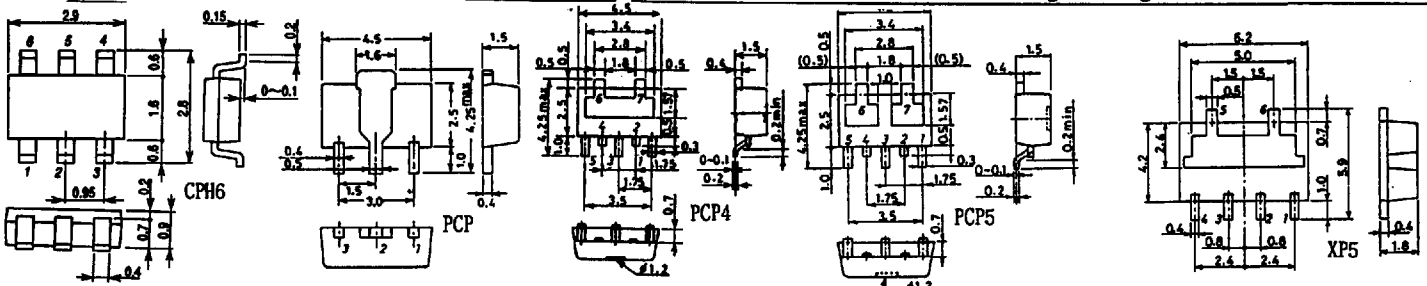
SANYO:SSFP SANYO:SMCP(SC-75A) SANYO:MCP(SC-70), MCP4(SC-82, A), MCP6
 Device weight:0.002g Device weight:0.003g Device weight:0.006g, 0.007g, 0.007g



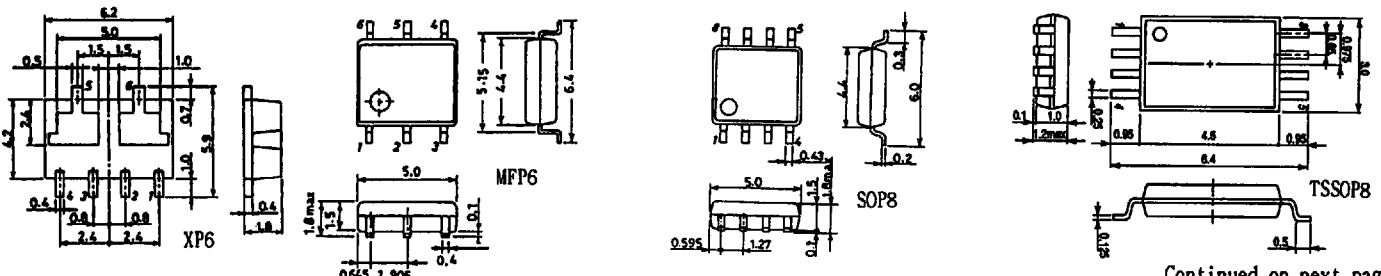
SANYO:CP(SC-59, TO-236) SANYO:CP4, CP5, CP6(SC-61, SC-74A, SC-74, SOT143) SANYO:CPH3, CPH5
 Device weight:0.013g Device weight:0.013g, 0.014g, 0.015g Device weight:0.013g, 0.015g



SANYO:CPH6 SANYO:PCP, PCP4/5(SC-62, SOT89) Bottom View SANYO:XP5 Bottom View
 Device weight:0.015g Device weight:0.058g, 0.052g Device weight:0.062g



SANYO:XP6 Bottom View SANYO:MFP6 SANYO:SOP8 SANYO:TSSOP8
 Device weight:0.062g Device weight:0.089g Device weight:0.093g Device weight:0.04g



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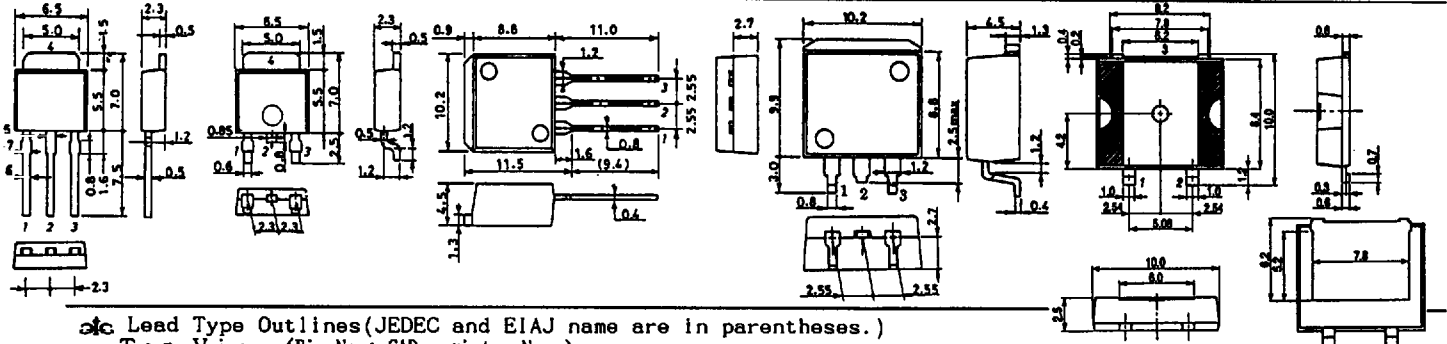
SANYO Discrete Device Package Outlines (unit:mm)

Surface Mount Type Outlines (JEDEC and EIAJ name are in parentheses.)
Top View Pin Nos. of top view are CAD register Nos. Bottom side : Heat sink side.

SANYO:TP, TP-FA(SC-64, SC-63, TO-251)
 Device weight:0.315g, 0.282g

SANYO:SMP, SMP-FD(forming type)(SC-83)
 Device weight:1.4g

SANYO:ZP
 Device weight:0.62g



Lead Type Outlines (JEDEC and EIAJ name are in parentheses.)
Top View (Pin No. : CAD register Nos.)

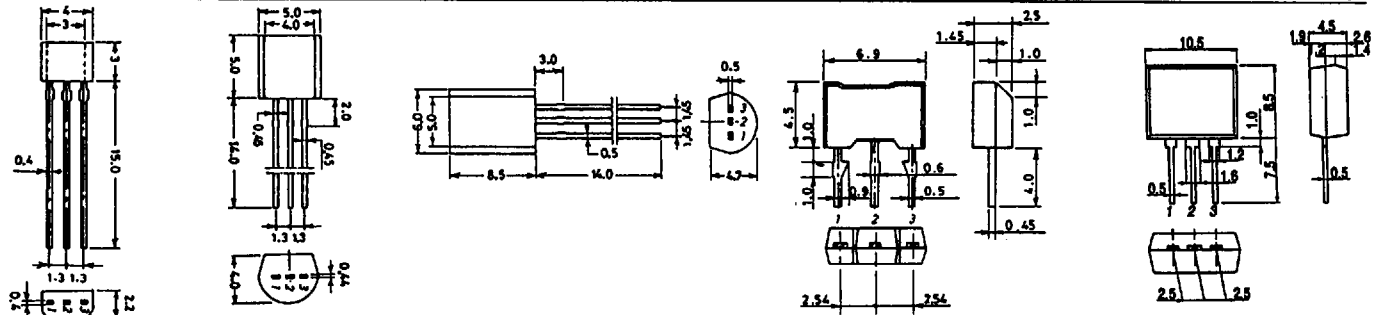
SANYO:SPA(TO-18, TO-39)
 Device weight:0.098g

SANYO:NP(SC-43A, TO-92, SOT-54)
 Device weight:0.269g

SANYO:MP(SC-51, TO-226)
 Device weight:0.578g

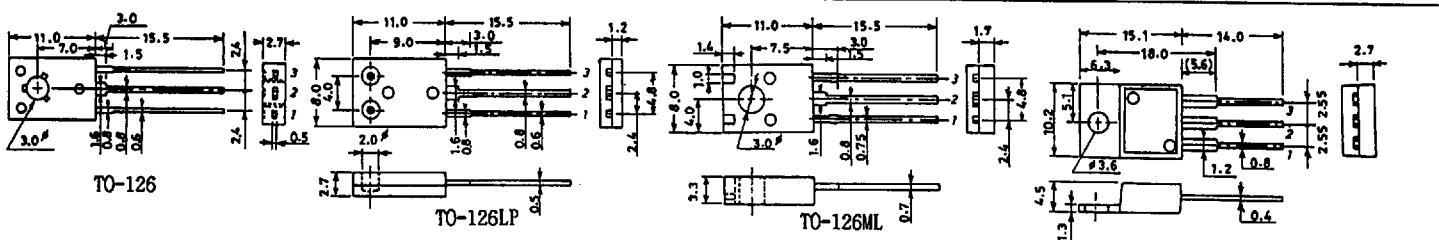
SANYO:NMP(SC-71)
 Device weight:0.21g, AN use:0.275g

SANYO:FLP
 Device weight:1.1g



SANYO:TO-126(TO-126, TO-225, SOT-32), TO-126LP, TO-126ML(SOT-82)
 Device weight : 0.675g, 0.7g, 0.97g

SANYO:TO-220AB, AB(SC-45, 46, TO-220AA)
 Device weight:1.9g

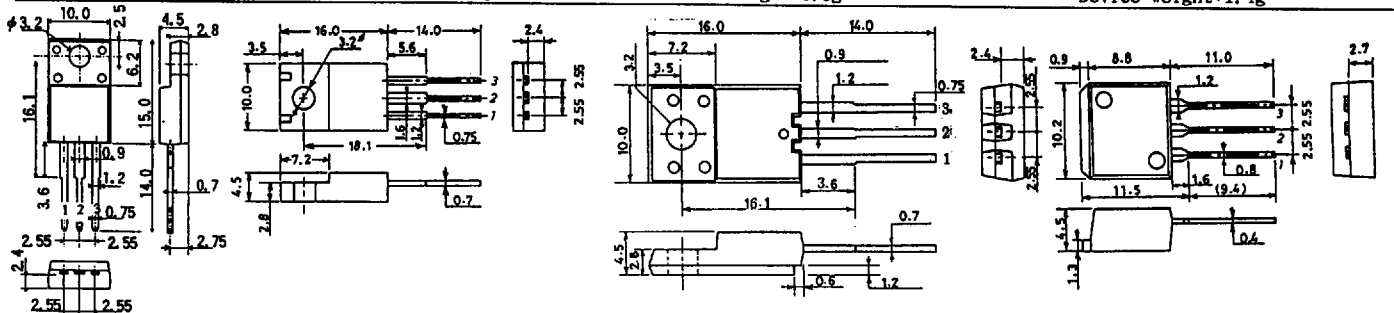


SANYO:TO-220CI
 Device weight:1.75g

SANYO:TO-220ML(SC-67, SOT-186)
 Device weight:1.9g

SANYO:TO-220FI(LS)(SC-67, SOT-189)
 Device weight:1.8g

SANYO:TO-220MF
 Device weight:1.4g



SANYO:TO-3PB(SC-65, TO-218)
 Device weight:5.8g

SANYO:TO-3PML(1SOWATT218)
 Device weight:5.3g

SANYO:TO-3PBL(TO-247)
 Device weight:9.2g

SANYO:TO-3JML
 Device weight:9.2g

