

Transistors for TV Display Video Output Use

Features *Excellent HF characteristic. *Small reverse transfer capacitance. *Complementary PNP and NPN types.
*Adoption of MBIT, FBET processes. *Highly resistant to dielectric breakdown.

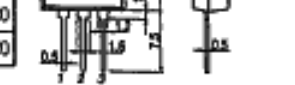
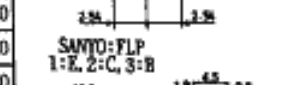
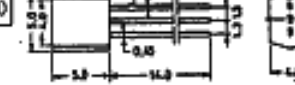
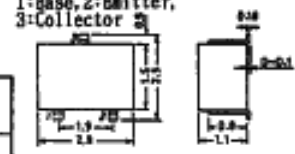
Case Outline (unit:mm)

SANYO:CP

1:Base, 2:Emitter, 3:Collector

General-Purpose Type (※: Tc=25°C) For PNP, (-) sign is omitted.

Type No.	Package	Absolute Maximum Ratings/Ta=25°C				Electrical Characteristics/Ta=25°C					
		V _{CE0} (V)	V _{CEO} (V)	I _C (A)	P _C (W)	f _T typ (MHz)	V _{CE} / I _C (V/mA)	C _{ob} typ (PF)	C _{rc} (PF)	V _{CB} (V)	h _{FE}
25C2857	N P	180	180	50m	0.5	min50	30 / 10	4	-	10	40 ~ 320
25A1689/25C4449		300	300	50m	0.6	70	30 / 10	2.4/1.5	1.5/1	30	100 ~ 320
25C5291	FLP	180	160	1.5	1.5	120	10 / 50	14	-	10	100 ~ 400
25C4075	TO-220ML	300	300	0.2	※10	min50	30 / 10	5.3	-	50	40 ~ 200



High-Definition CRT Display Use

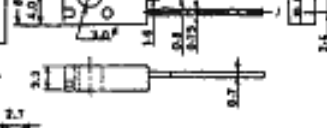
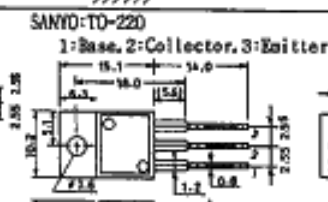
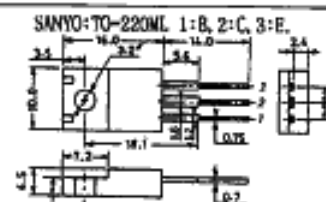
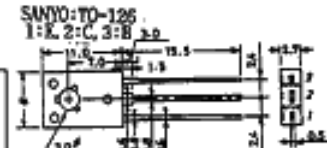
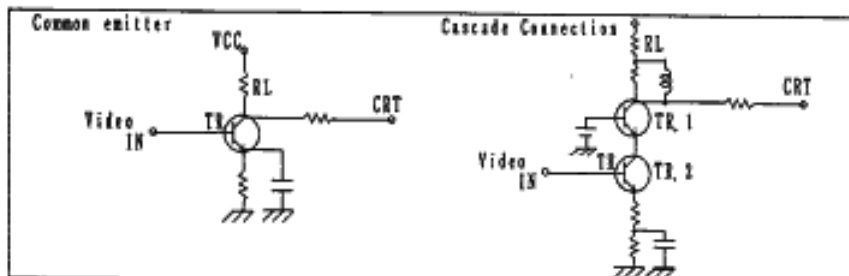
Type No.	Package	V _{CE0} (V)	V _{CEO} (V)	I _C (A)	P _C (W)	f _T typ (MHz)	V _{CE} / I _C (V/mA)	C _{ob} typ (PF)	C _{rc} (PF)	V _{CB} (V)	h _{FE}
25A1580/25C4104	C P	70	60	50m	0.2	700	10 / 10	1.7/1.3	1.3/1	10	60 ~ 270
25A1433/25C3504		0.9	700	10 / 10	1.7	1.3/1	10	60 ~ 320			
25A1370/25C3467	M P	200	200	0.1	1.0	150	30 / 10	2.6/1.7	1.7/1.2	30	40 ~ 320
25A1371/25C3468		300	300	0.1	1.0	150	30 / 10	3.1/2.6	2.3/1.8	30	40 ~ 320
25A1710/25C4490	NMP	300	300	0.1	1.0	70	30 / 10	3.1/2.6	2.3/1.8	30	40 ~ 320
25A1787/25C4650		200	200	0.1	1.0	150	30 / 10	2.6/1.7	1.7/1.2	30	40 ~ 320
25A1628/25C4732	FLP	200	200	0.1	1.3	150	30 / 10	2.6/1.7	1.7/1.2	30	60 ~ 320
25A1829/25C4733		300	300	0.1	1.3	150	30 / 10	3.1/2.6	2.3/1.8	30	60 ~ 320
25C4884	TO-126	300	300	0.1	1.5	70	30 / 10	2.6	1.8	30	60 ~ 320
25A1352/25C3416		200	200	0.1	1.2	70	30 / 10	2.6/1.7	1.7/1.2	30	40 ~ 320
25A1353/25C3417	TO-126	300	300	0.1	1.2	70	30 / 10	3.1/2.6	2.3/1.8	30	40 ~ 320
25A1380/25C3502		200	200	0.1	1.2	150	30 / 10	2.6/1.7	1.7/1.2	30	40 ~ 320
25A1381/25C3503	TO-126ML	300	300	0.1	1.2	150	30 / 10	3.1/2.6	2.3/1.8	30	40 ~ 320
25A1478/25C3788		200	200	0.1	1.3	150	30 / 10	2.6/1.7	1.7/1.2	30	40 ~ 320
25A1479/25C3789	TO-126ML	300	300	0.1	1.5	70	30 / 10	3.1/2.6	2.3/1.8	30	40 ~ 320
25A1480/25C3790		300	300	0.1	1.5	150	30 / 10	3.1/2.6	2.3/1.8	30	40 ~ 320
25C4217	TO-220	300	300	0.2	1.5	70	10 / 10	3.5	-	50	40 ~ 200
25C4378		300	300	0.2	1.5	100	30 / 10	3.9	3.2	30	60 ~ 320
25C4188	TO-220	200	200	0.1	※10	150	30 / 10	1.8	1.3	30	40 ~ 320

Underlined type Nos. are before mass production.

*Classification by h_{FE}

40	C	80	60	D	120	100	E	200	180	F	320
(CP type)											
60	3	120	90	4	180	135	5	270	100	R	200
									140	S	280
									200	T	400

*Equivalent Circuit for Video Output Use



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, CPB3/5/6, 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-PD, TO-220, TO-220CI, 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. (RH type)
CP	Chip Pack.
CP5/6	Chip Pack. (PC type)
CPB3/5/6	Chip Pack high-power
PCP	Power Chip Pack.
PCP4/5	Power Chip Pack. (FP type)
NP	Chip Pack. (FX type)
TSSOP8	(FTS, FTD type)
SOP8	(FW, FSS type)
TP-FA	Tiny Package
SMP-PD	For large signal
ZP	For large signal

Lead Types

ML: No insulating needed.

NMP	New MP
FLP	Full Mold Large Package
TO-126LP	Large-Power
TO-126ML	Ni: Micaless
TO-220, 220ML	Ni: Micaless type
TO-220CI	CI: Compact isolation
TO-220FI (LS)	Full isolation (leads 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:

- 1st F : Packages for complex type devices. (CP5/6, MCP4/6, PCP4/5, XP5/6, SOP8, TSSOP8)
- 2nd S : SOP8 package
- 2nd W : Double chips
- 2nd T : TSSOP8 package
- 2nd C : CP5/6 package
- 2nd P : PCP4/5 package
- 2nd X : XP5/6 package
- 2nd D : Dual type
- 2nd H : Ultra high freq. type
- 3rd S : Single

Type Nos. of 10X or 100X are p-channel types.

Type Nos. of 20X or 200X are N-channel types.

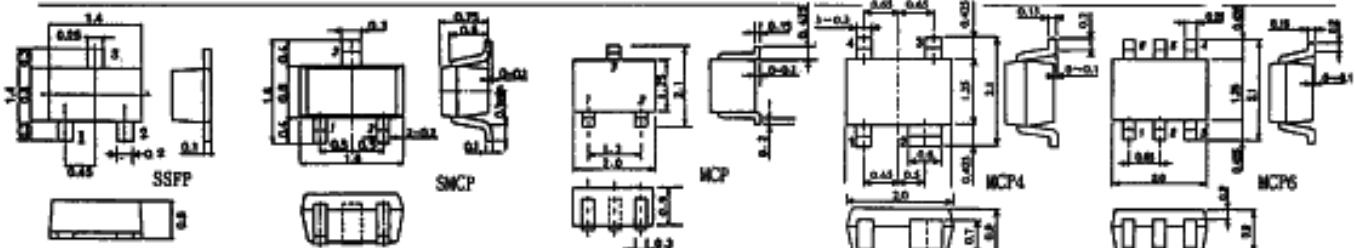
XP package is excluded.

• How to name CPB3/6 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:NPV Tr, 3:P-ch MOSFET, 4:N-ch MOSFET.

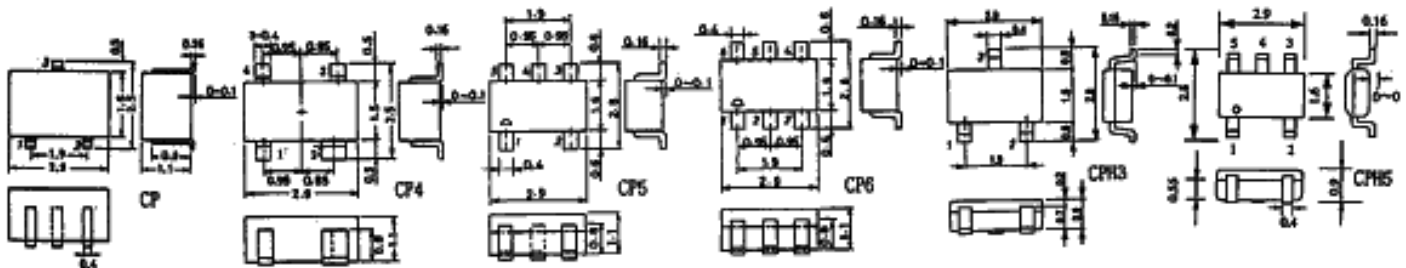
• Surface Mount Type Outlines (JEDEC and EIAJ name are in parentheses.)

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

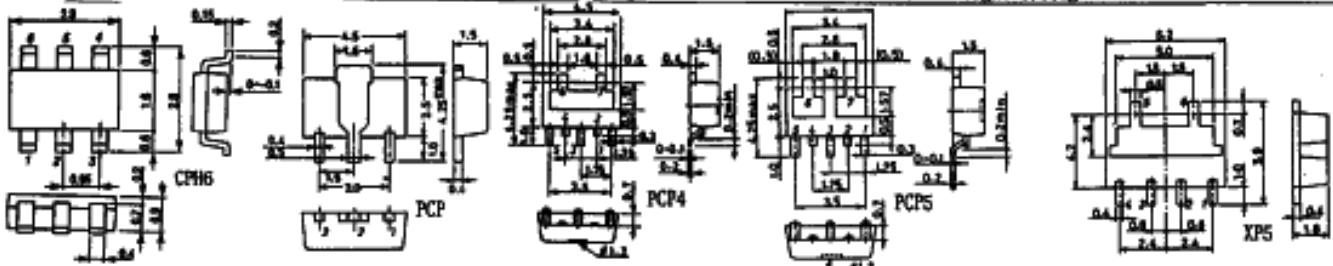
SANYO:SSFP	SANYO:SMCP(SC-75A)	SANYO:MCP(SC-70), MCP4(SC-82, A), MCP6
Device weight:0.002g	Device weight:0.003g	Device weight:0.006g, 0.007g, 0.007g



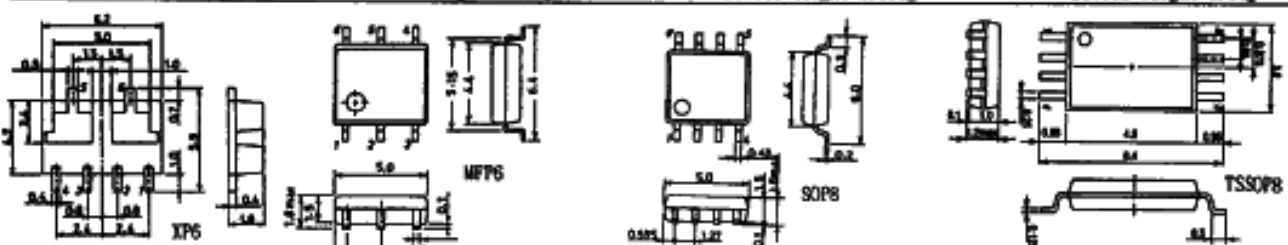
SANYO:CP(SC-89, TO-236)	SANYO:CP4, CP5, CP6(SC-61, SC-74A, SC-74, SOT143)	SANYO:CPB3, CPB5
Device weight:0.013g	Device weight:0.013g, 0.014g, 0.015g	Device weight:0.013g, 0.015g



SANYO:CPB6	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



Continued on next page

SANYO Discrete Device Package Outlines (unit:mm)

abc 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)

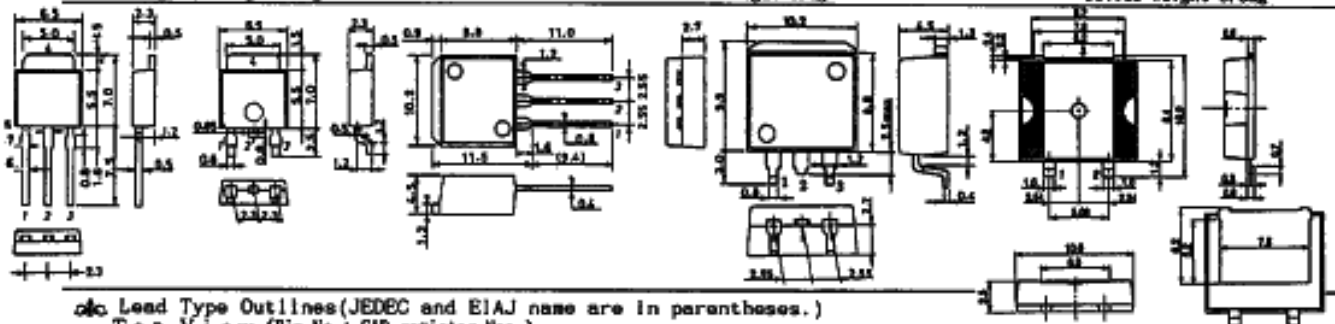
Device weight: 0.315g, 0.282g

SANYO:SNP, SNP-PD (forming type) (SC-83)

Device weight: 1.4g

SANYO:ZP

Device weight: 0.62g



abc 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-62, SOT-54)

Device weight: 0.269g

SANYO:MP (SC-51, TO-226)

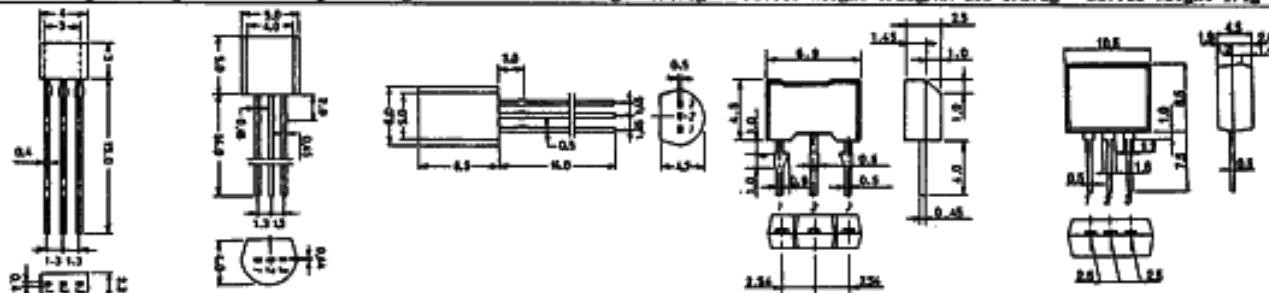
Device weight: 0.578g

SANYO:NMP (SC-71)

Device weight: 0.21g, AN use: 0.275g

SANYO:FLP

Device weight: 1.1g

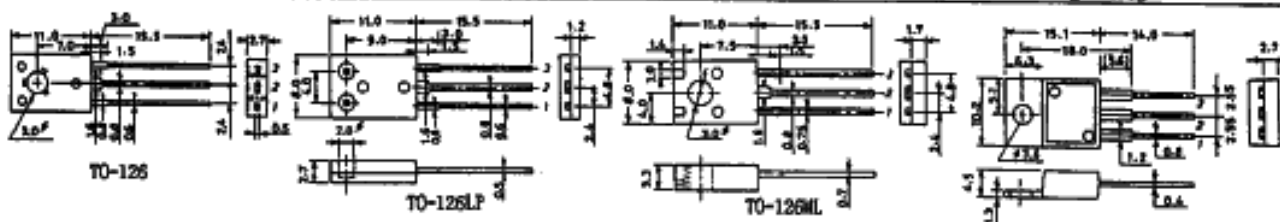


SANYO:TO-126 (TO-126, TO-225, SOT-32), TO-126LP, TO-126ML (SOT-82)

Device weight: 0.675g, 0.7g, 0.97g

SANYO:TO-220AB, AB (SC-45, 46, TO-220AA)

Device weight: 1.9g



SANYO:TO-220C

Device weight: 1.75g

SANYO:TO-220ML (SC-67, SOT-186)

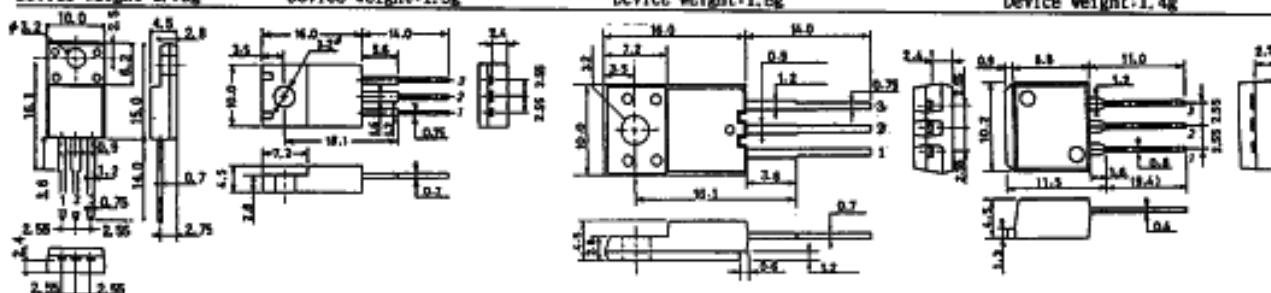
Device weight: 1.9g

SANYO:TO-220P (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 (180WATT218)

Device weight: 5.3g

SANYO:TO-3PBL (TO-247)

Device weight: 9.2g

SANYO:TO-3ML

Device weight: 9.2g

