

Large-signal Power MOSFETs(5)

The Sanyo J-MOS series utilizes Sanyo's own fine fabrication process for power devices to develop an entire series of ultrahigh performance power devices capable of high voltage, high speed and large current operation.

With performance of wide applications for virtually any types of power electronic equipment, the UH Series, AP Series and LD Series offer the most suitable devices to meet specific needs.

In addition to the below SANYO has a wide variety of package of small-signal power MOSFET series. See the tables on other pages.

AP Series (Advanced Performance)

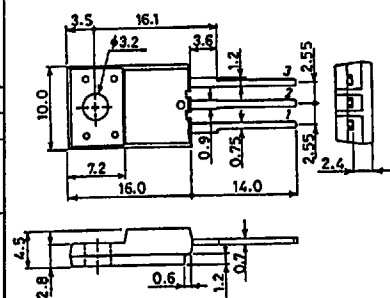
The AP Series provides an on-state resistance approximately 40% lower than the existing J-MOS series. A precisely controlled, channel forming process is used to achieve a threshold value variation width of 0.5V resulting in easy parallel connection operation essential for large current circuits. (VGS=30V guaranteed in VDSS 450V series.) Designed as a power MOSFET with well-balanced characteristics, the AP Series provides the ultimate in high-power performance. The surface mounting TP, SMP and ZP package enables higher density assembly and higher reliability.

Applications *Battery charger, Ac adapter, motor control, inverter lighting, switching power supply, AV equipment etc

VDSS 600V system (H-III Series)

Type No.	Package	Absolute Maximum Ratings /Ta=25℃					Electrical Characteristics/Ta=25℃			Type No.
		V _{DSS} (V)	V _{GSS} (V)	I _D (A)	I _{DP} (A)	P _D Tc=25℃ (W)	V _{GS} (off) (V)	R _{DS} (on) V _{GS} =10V *V _{GS} =15V (Ω) typ/max	Ciss typ (PF)	
2SK2623	T P	600	± 30	1.5	6	30	3.5~5.5	*4.2/5.5	300	2SK2623
2SK2919	Z P			2	8	35	2~3	3.2/4.3	400	2SK2919
2SK1922	TO-220			2	8	50	2~3	3.2/4.3	400	2SK1922
2SK1923				4	16	60	2~3	1.8/2.4	700	2SK1923
2SK1924				6	24	70	2~3	1.1/1.5	1100	2SK1924
2SK2043LS				TO-220FI (LS)	2	8	25	2~3	3.2/4.3	400
2SK2044LS	4				16	30	2~3	1.8/2.4	700	2SK2044LS
2SK2045LS	5.5				22	35	2~3	1.1/1.5	1100	2SK2045LS
2SK2625LS	4				16	30	3.5~5.5	*1.5/2	700	2SK2625LS
2SK2628LS	6				24	35	3.5~5.5	*0.9/1.2	1150	2SK2628LS
2SK2678LS	1.5				6	20	3.5~5.5	*4.2/5.5	300	2SK2678LS

Case Outlines(unit:mm)
SANYO:TO-220FI(LS)
1:Gate, 2:Drain, 3:Source



UH Series (Ultra High-Voltage)

The HVP(high-voltage planar) bipolar process technology has proven its value in the field. The UH planar series applies this proven technology to a precision MOS process to realize a VDSS of 1500V, one of the highest in the world.

UH process technology

- *Low Ciss type ultra-high blocking voltage MOS unit cell design.
- *Adoption of accurately doped Si.
- *Surface stabilization by special protection film.
- *Optimum design of a guard-ring design.

Applications *CRT display monitor, projector, switching power supply, inverter lighting etc.

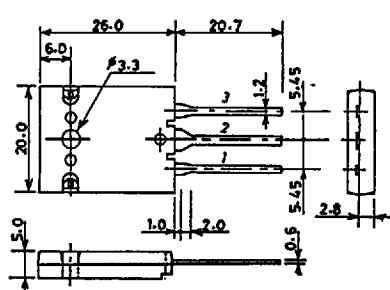
VDSS 800V system (H-III Series)

2SK2631	TP	800	±30	1	3	30	3.5~5.5	*7.5/10	300	2SK2631
2SK2435	ZP			3.5	10.5	40		*2.8/3.6	700	2SK2435
2SK2436				7	21	50		*1.4/1.8	1400	2SK2436
2SK2632LS	TO-220FI(LS)			2.5	7.5	25		*3.6/4.8	550	2SK2632LS

VDSS 900V system

2SK1455	TO-220	900	±30	0.2	0.4	30	2~3	50/70	45	2SK1455
2SK1456				3	6	60		4.7/6	350	2SK1456
2SK1457				5	10	70		2.8/3.6	700	2SK1457
2SK1458LS	TO-220FI (LS)			0.2	0.4	20		50/70	45	2SK1458LS
2SK1459LS				2.5	5	30		4.7/6	350	2SK1459LS
2SK1460LS				3.5	7	40		2.8/3.6	700	2SK1460LS
2SK1461	TO-3PB			5	10	120		2.8/3.6	700	2SK1461
2SK1462				8	16	150		1.2/1.6	1600	2SK1462
2SK1463	TO-3PML			4.5	9	60		2.8/3.6	700	2SK1463
2SK1464				8	16	80		1.2/1.6	1600	2SK1464
2SK1465	TO-3PBL			8	16	200		1.2/1.6	1600	2SK1465
2SK1466				16	32	250		0.6/0.8	3200	2SK1466

SANYO:TO-3PBL
1:Gate, 2:Drain, 3:Source.



VDSS 1000V system

2SK2347	TO-3JML	1000	±30	20	40	160	1.5~3.5	0.6/0.8	3300	2SK2347
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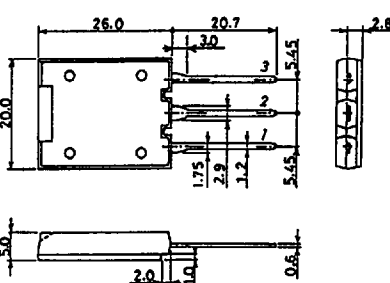
VDSS 1200V system

2SK2348	TO-3JML	1200	±30	14	28	160	1.5~3.5	1/1.5	3000	2SK2348
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VDSS 1500V system

2SK1412LS	TO-220FI(LS)	1500	±20	0.1	0.2	20	1.5~3.5	140/200	40	2SK1412LS
2SK1413	TO-3PML		±20	2	4	60		8/11	550	2SK1413
2SK2349	TO-3JML		±30	10	20	160		1.5/2.5	2900	2SK2349

SANYO:TO-3JML
1:Gate, 2:Drain, 3:Source.



Underlined type Nos. are before mass production.

Precaution *Take care to prevent device breakage from static electricity because MOSFETs cannot withstand much static electricity.

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 Pin Short fin type.
TO-3PB, 3PML Bushless, ML:Micaless
TO-3PBL Micaless
TO-3JML Bushless Large
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.

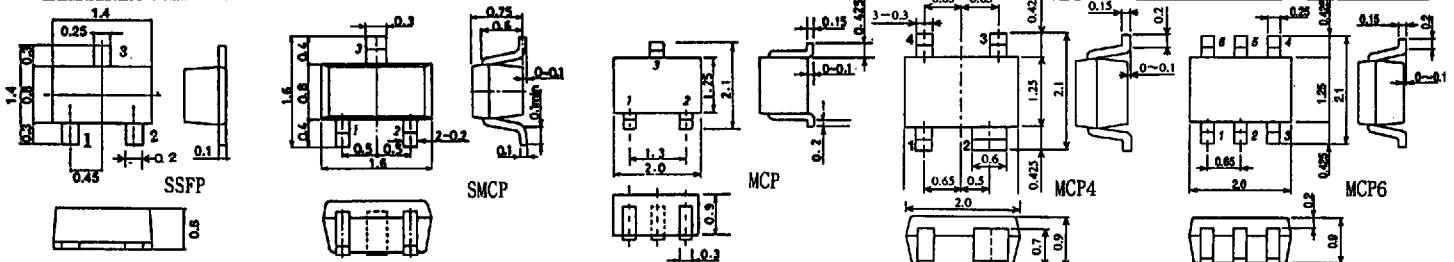
*:How to name CPH3/6 devices. Package name followed by 1, 2, 3 or 4 and then tow-digit consecutive Nos. Figures following the package names mean: 1:PNP Tr, 2:NPN Tr, 3:P-ch MOSFET, 4:N-ch MOSFET.

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

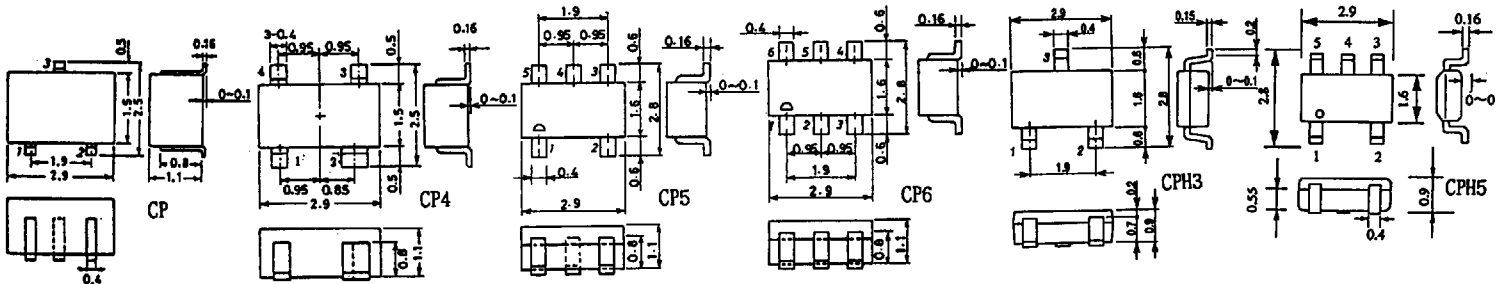
Top View

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

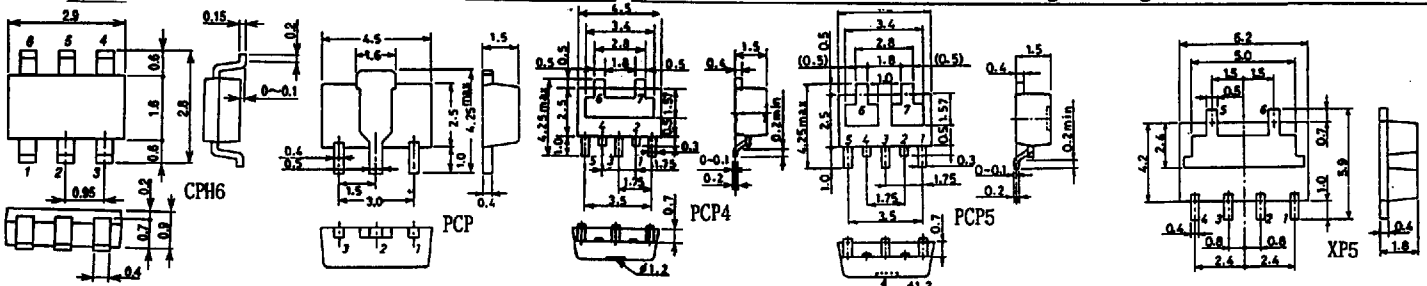
SANYO:SSFP SANYO:SMCP(SC-75A) SANYO:MCP(SC-70), MCP4(SC-82, A), MCP6
Device weight:0.002g Device weight:0.003g Device weight:0.006g, 0.007g, 0.007g



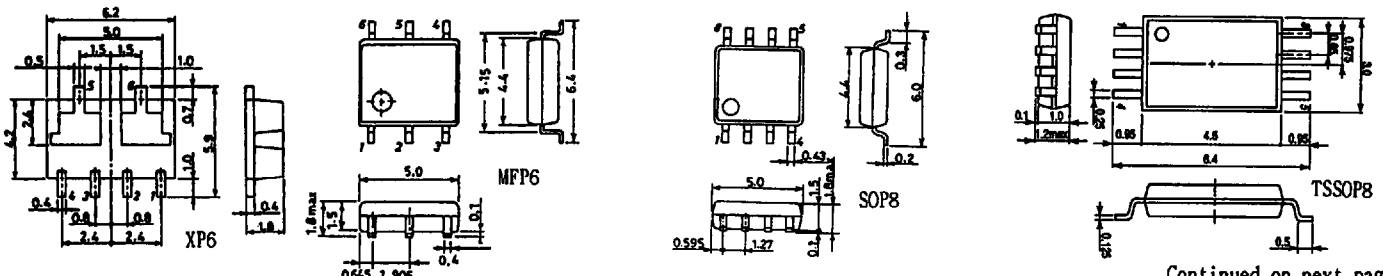
SANYO:CP(SC-59, TO-236) SANYO:CP4, CP5, CP6(SC-61, SC-74A, SC-74, SOT143) SANYO:CPH3, CPH5
Device weight:0.013g Device weight:0.013g, 0.014g, 0.015g Device weight:0.013g, 0.015g



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)

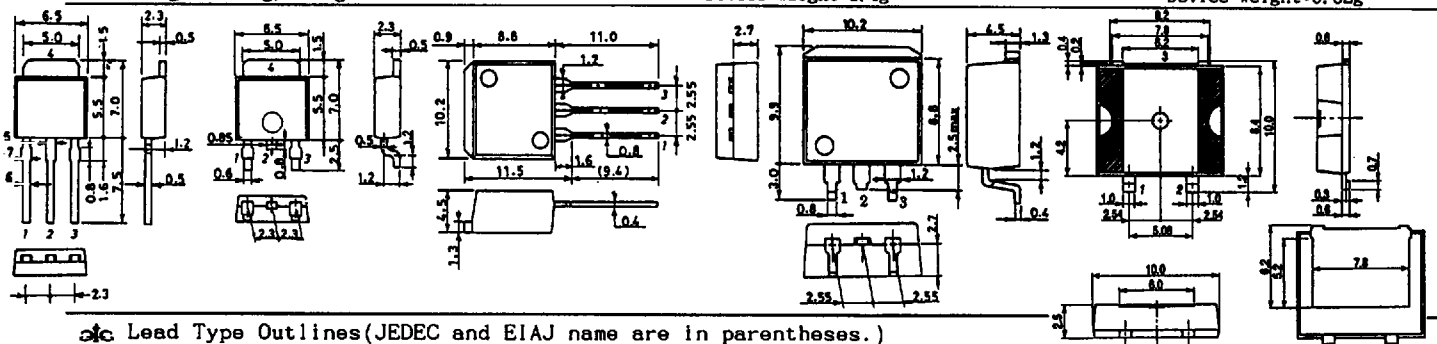
Device weight:0.315g, 0.282g

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)

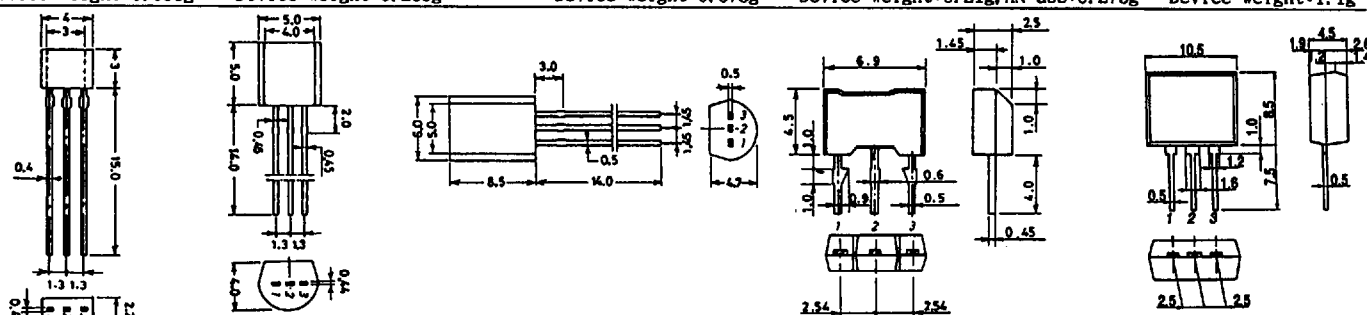
Device weight:0.578g

SANYO:NMP(SC-71)

Device weight:0.21g, AN use:0.275g

SANYO:FLP

Device weight:1.1g

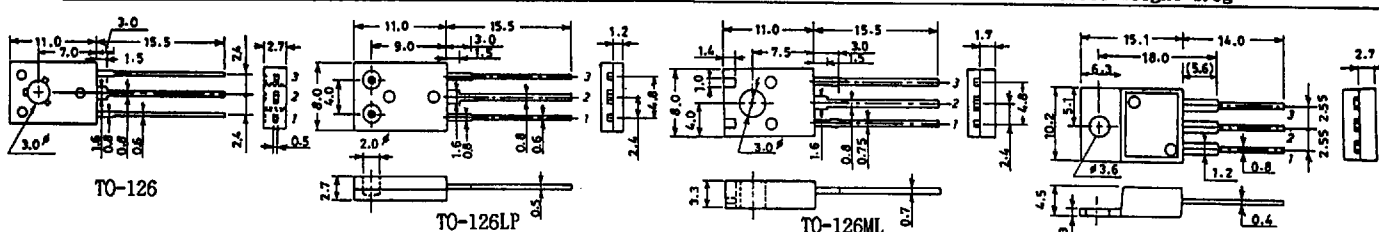


SANYO:TO-126(TO-126, TO-225, SOT-32), TO-126LP, TO-126ML(SOT-82)

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)

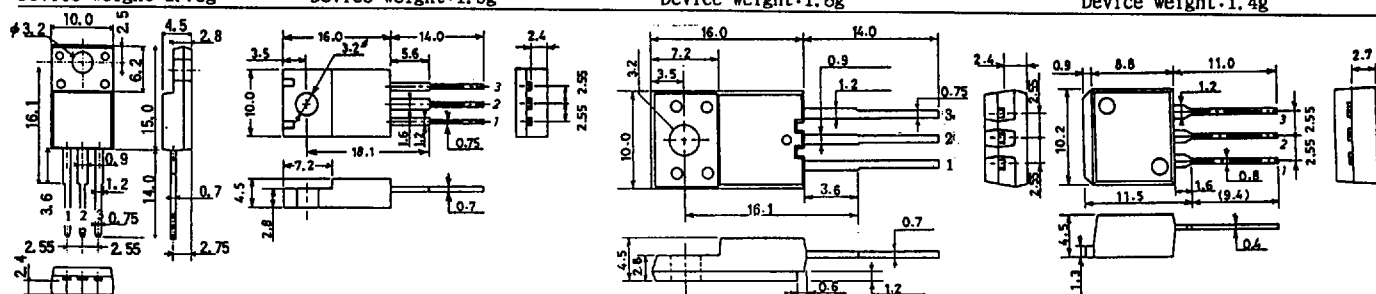
Device weight:1.9g

SANYO:TO-220FI(1S)(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

