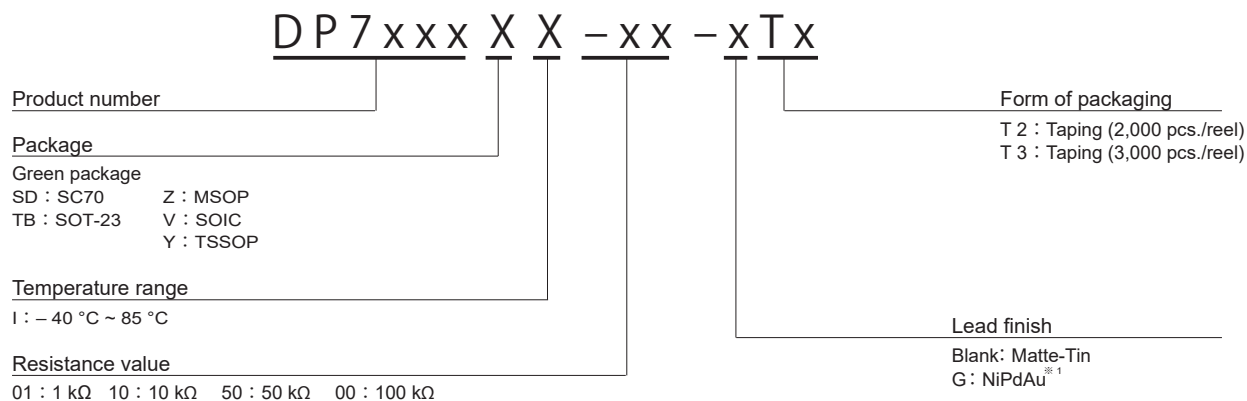


DP series

DIGITAL POTENTIOMETERS

■ PART NUMBER DESIGNATION



※ 2 : The relevant products are actollows.
DP7112 / DP7113 / DP7115 /
DP7119 / DP7140 / DP7172

Except MSOP package of DP7113

● Taping code and quantity

| Package | Pin no. | Taping quantity (pcs./reel) | |
|---------|---------|-----------------------------|-------|
| | | 2,000 | 3,000 |
| SC70 | 6 | | ○ |
| SOT-23 | 8 | | ○ |
| MSOP | 8 | | ○ |
| SOIC | 8 | | ○ |
| TSSOP | 24 | ○ | |

DP series

DIGITAL POTENTIOMETERS

LIST OF PART NUMBERS

| Product number | Pot | Tap | (V) Power supply voltage | (k Ω) Total resistance value * | I/F | (Hz) Clock frequency | (Ω) Wiper resistance | (mA) Wiper current | Package* | Note |
|----------------|-----|-----|-----------------------------|---|-----|-------------------------|----------------------------------|--|-------------|-------------|
| DP7112 | 1 | 32 | 2.5-6.0 | 10 | U/D | 1 M | — | — | 8SOIC | With buffer |
| DP7115 | 1 | 32 | 2.5-5.5 | 10 | U/D | 1 M | 400@2.5 V/200@5 V | 1 | 8MSOP | Volatile |
| DP7113 | 1 | 100 | 2.5-6.0 | 1, 10, 50, 100 | U/D | 1 M | 1k@2.5 V/400@5 V | ± 4.4 | 8MSOP/8SOIC | |
| DP7411 | 2 | 64 | 2.5-6.0 | 10 | SPI | 3 M | 300@3 V/150@5 V | ± 6 | 24TSSOP | |
| DP7419 | 2 | 64 | 2.5-6.0 | 10 | 2W | 400 k | 300@3 V/150@5 V | ± 6 | 24TSSOP | |
| DP7261 | 2 | 256 | 2.5-6.0 | 100 | SPI | 3 M | 300@3 V/150@5 V | ± 6 | 24TSSOP | |
| DP7241 | 4 | 64 | 2.5-6.0 | 50 | 2W | 400 k | 300@3 V/150@5 V | ± 6 | 20TSSOP | |
| DP7401 | 4 | 64 | 2.5-6.0 | 10 | SPI | 3 M | 300@3 V/150@5 V | ± 6 | 24TSSOP | |
| DP7251 | 4 | 256 | 2.5-6.0 | 100 | SPI | 3 M | 300@3 V/150@5 V | ± 6 | 24TSSOP | |
| DP7119 | 1 | 32 | 2.7-5.5 | 10, 100 | U/D | 1 M | 600@2.7 V | $\pm 1.3(10k\Omega)/\pm 0.6(100k\Omega)$ | 6SC70 | Volatile |
| DP7140 | 1 | 256 | 2.5-5.5 | 50 | 2W | 400 k | 200@3.3 V | ± 3 | 8MSOP | |
| DP7172 | 1 | 256 | 2.7-5.5 | 100 | SPI | 25 M | 250@3 V/120@5V | ± 3 | 8SOT-23 | Volatile |

Legend Pot : No. of potentiometer Tap : No. of taps I/F : Interface type U/D : UP/DOWN SPI : Serial Peripheral Interface 2W : 2-wire interface

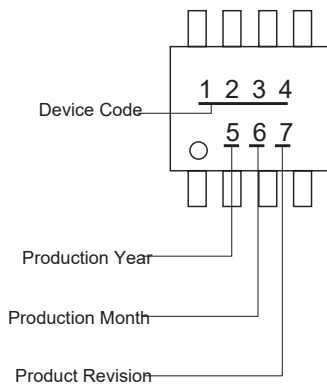
* Resistance value will vary depending on the package. For details, please contact us.

| | |
|----------|--------------------------------|
| Copal DP | Development Support Kit for DP |
|----------|--------------------------------|

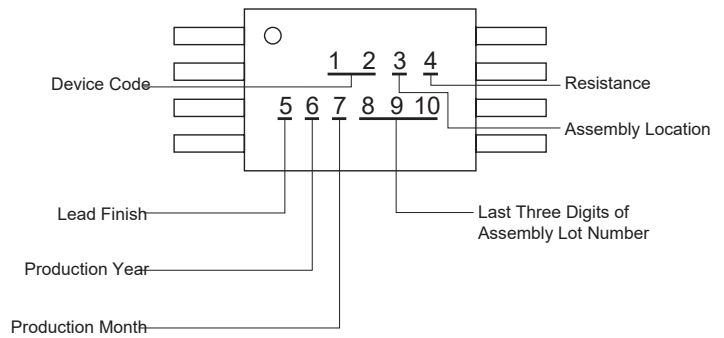
MARKING

Marking condition of IC top view is as follows;

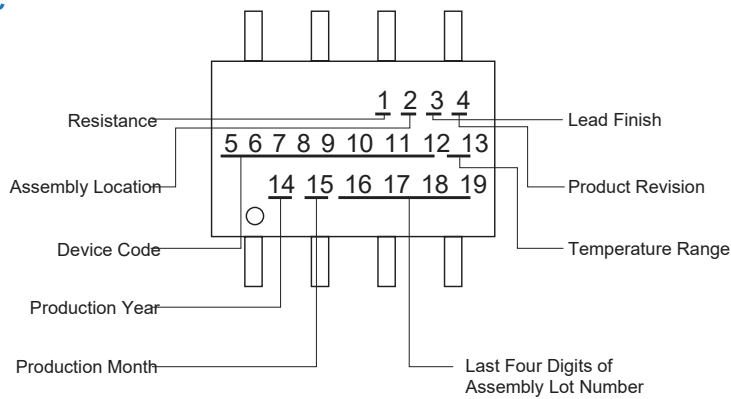
MSOP



TSSOP

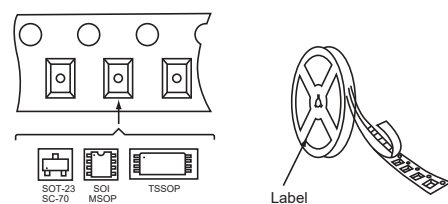
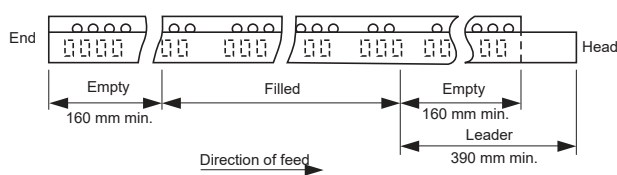


SOIC



※ Regarding the details of each part number, please refer to respective specifications.

TAPING PACKAGING SPECIFICATIONS



DP series

DIGITAL POTENTIOMETERS

Application Notes and Design Notes

Application Notes (AN) and Design Notes (DN) are available as follows.

Please request these notes from one of our sales offices.

| No. | Title |
|-----|---|
| AN7 | Programmable Analog Functions |
| AN8 | Everything You wanted to know About Digital Potentiometers |
| AN9 | Minimizing the Temperature Dependence of Digital Potentiometers |
| DN1 | Push-Button Control of Digital Potentiometers with an increment/decrement interface |
| DN2 | Electronics versus Mechanical Potentiometers-A Comparison |
| DN3 | Operating speed of Digital Potentiometers |
| DN4 | Improving the Resolution of Digital Potentiometers Applications |
| DN5 | Making a Stop-less Digital Potentiometers |
| DN6 | Power-Up and Power-Down characteristics for Digital Potentiometers |

DEVELOPMENT SUPPORT KIT FOR DP

DP control can be carried out using a special interface board.

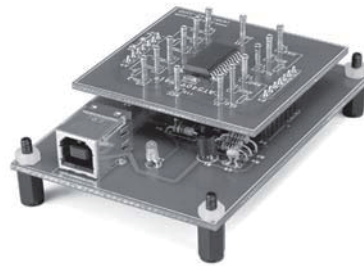
With this, your product development time can be shortened.

● OS : Windows98/2000/XP

● I/O : USB interface

● Software : Copal DP

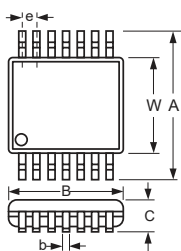
※ : Please order from one of our sales offices



OUTLINE DIMENSIONS

Unit : mm

SC70/SOT-23/MSOP/
SOIC/TSSOP



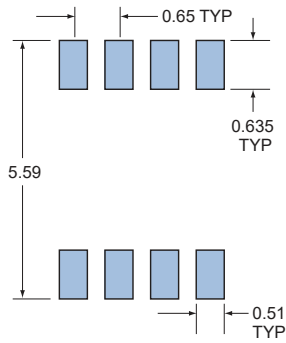
● SC70/SOT-23/MSOP/SOIC/TSSOP

| Packaging | Pin | A(Max./Min.) | B(Max./Min.) | W(Max./Min.) | C(Max./Min.) | b(Max./Min.) | e |
|-----------|-----|--------------|--------------|--------------|--------------|--------------|------|
| SC70 | 6 | 2.40/1.80 | 2.20/1.80 | 1.35/1.15 | 1.10/0.80 | 0.30/0.15 | 0.65 |
| SOT-23 | 8 | 2.80(Typ) | 2.90(Typ) | 1.60(Typ) | 1.45/0.90 | 0.38/0.28 | 0.65 |
| MSOP | 8 | 5.00/4.80 | 3.10/2.90 | 3.10/2.90 | 0.95/0.75 | 0.38/0.22 | 0.65 |
| SOIC | 8 | 6.20/5.80 | 5.0/4.80 | 4.00/3.80 | 1.75/1.35 | 0.51/0.33 | 1.27 |
| TSSOP | 24 | 6.55/6.25 | 7.90/7.70 | 4.50/4.30 | 1.2max | 0.30/0.19 | 0.65 |

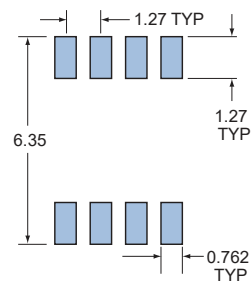
RECOMMENDED P. C. B. PAD OUTLINE DIMENSIONS

Unit: mm

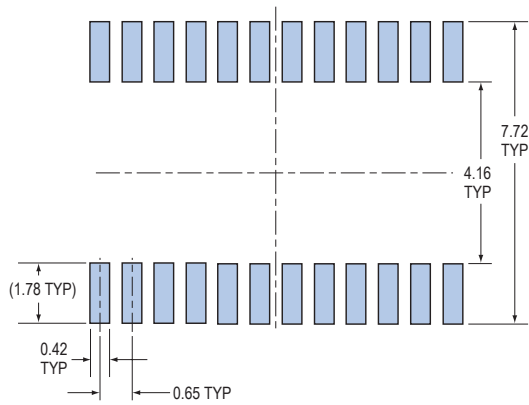
● 8 pins MSOP



● 8 pins SOIC



● 24 pins TSSOP



● 6 pins SC70

