



Product Summary

| | | |
|---------------|-----------------|-------|
| $V_{(BR)DSS}$ | $R_{DS(on)TYP}$ | I_D |
| 40V | 10.5mΩ@10V | 10A |
| | 11.5mΩ@4.5V | |

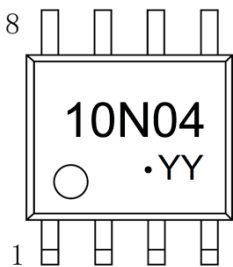
Feature

- High Power and current handing capability
- Load switch
- High density cell design for ultra low $R_{DS(ON)}$
- Lead free product is acquired

Application

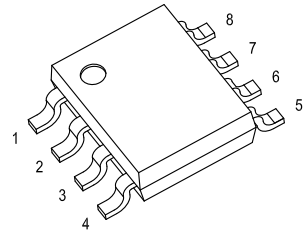
- SMPS and general purpose applications
- Hard switched and high frequency circuits
- Uninterruptible Power Supply
- Power management

MARKING:

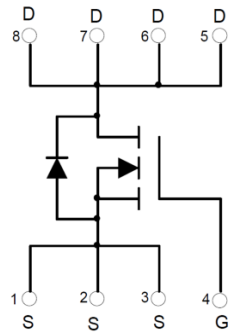


10N04= Device code
 Solid dot=Pin1 indicator
 Solid dot = Green molding compound device,
 if none, the normal device
 YY=Date Code

SOP8



Schematic diagram



ABSOLUTE MAXIMUM RATINGS ($T_C=25^\circ\text{C}$ unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|---|-----------------|-----------|--------------------|
| Drain-Source Voltage | V_{DS} | 40 | V |
| Gate-Source Voltage | V_{GS} | ± 20 | V |
| Continuous Drain Current | I_D | 10 | A |
| Pulsed Drain Current | I_{DM} | 25 | A |
| Single Pulse Avalanche Energy | $E_{AS}^{(1)}$ | 102 | mJ |
| Power Dissipation | P_D | 1.4 | W |
| Thermal Resistance from Junction to Ambient | $R_{\theta JA}$ | 89 | $^\circ\text{C/W}$ |
| Junction Temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{STG} | -55~ +150 | $^\circ\text{C}$ |

(1). E_{AS} condition: $V_{DD}=15\text{V}$, $L=0.1\text{mH}$, $R_G=25\Omega$, Starting $T_J = 25^\circ\text{C}$

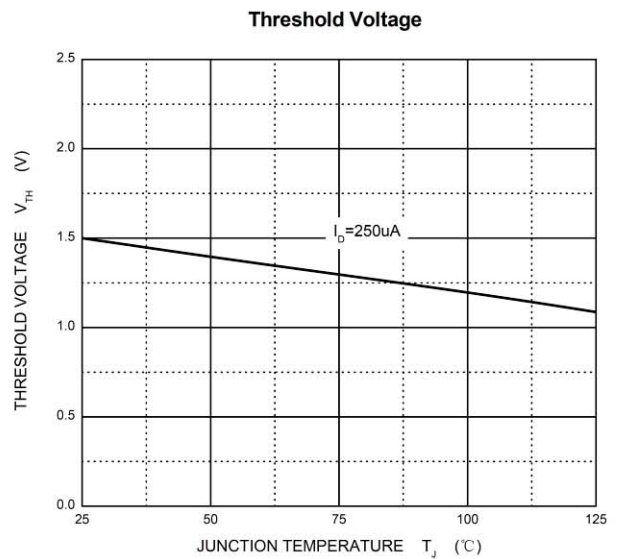
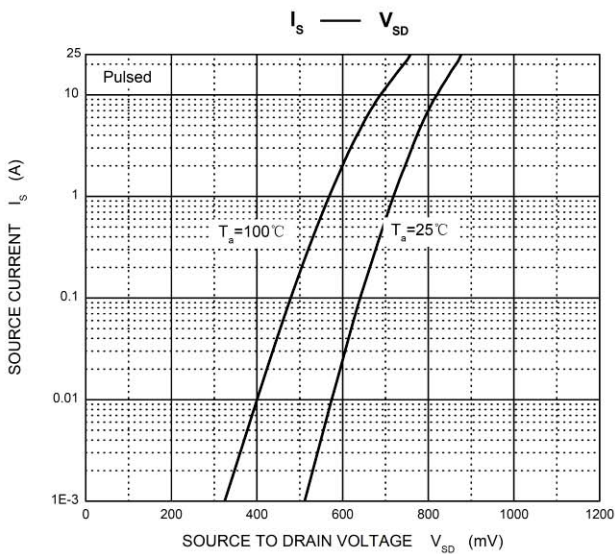
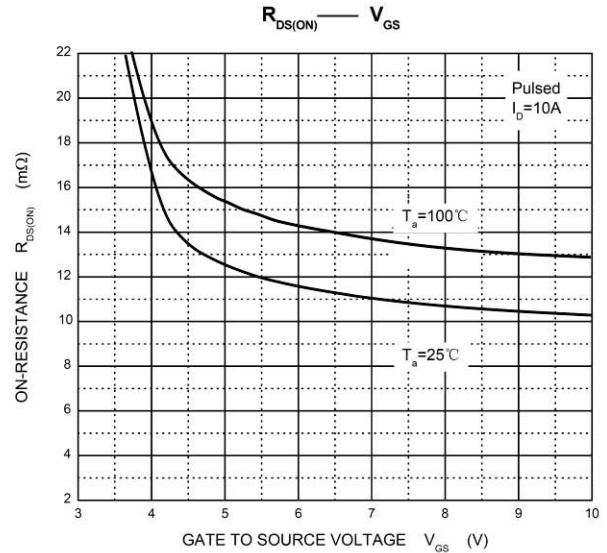
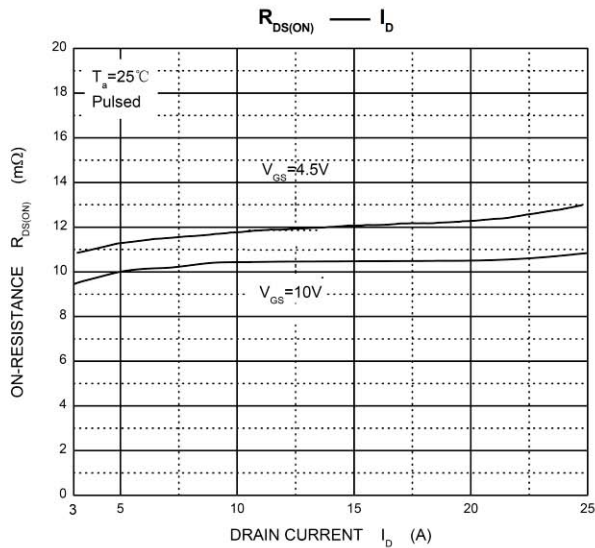
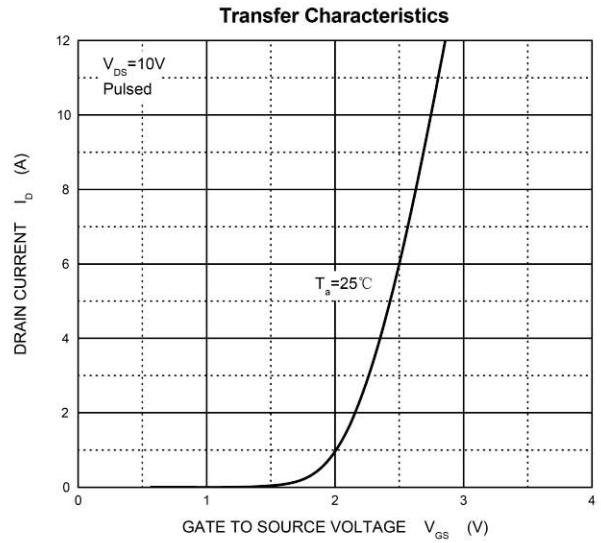
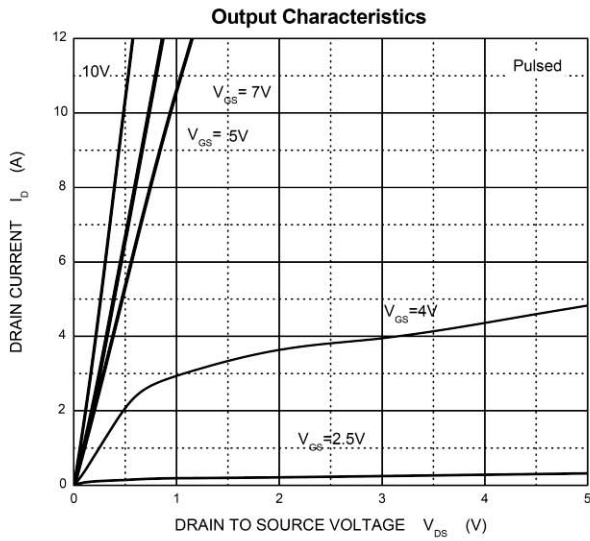
MOSFET ELECTRICAL CHARACTERISTICS ($T_J=25^\circ\text{C}$ unless otherwise noted)

| Parameter | Symbol | Test Condition | Min | Type | Max | Unit |
|--|---------------|--|-----|------|-----------|------------|
| Static Characteristics | | | | | | |
| Drain-source breakdown voltage | $V_{(BR)DSS}$ | $V_{GS} = 0V, I_D = 250\mu A$ | 40 | | | V |
| Zero gate voltage drain current | I_{DSS} | $V_{DS} = 40V, V_{GS} = 0V$ | | | -1 | μA |
| Gate-body leakage current | I_{GSS} | $V_{GS} = \pm 20V, V_{DS} = 0V$ | | | ± 100 | nA |
| Gate threshold voltage ¹ | $V_{GS(th)}$ | $V_{DS} = V_{GS}, I_D = 250\mu A$ | 1.0 | 1.5 | 2.5 | V |
| Drain-source on-resistance ¹ | $R_{DS(on)}$ | $V_{GS} = 10V, I_D = 10A$ | | 10.5 | 13 | m Ω |
| | | $V_{GS} = 4.5V, I_D = 10A$ | | 11.5 | 17 | |
| Forward transconductance ¹ | g_{FS} | $V_{DS} = 5V, I_D = 10A$ | 10 | 22 | | S |
| Dynamic characteristics² | | | | | | |
| Input capacitance | C_{iss} | $V_{DS} = 25V, V_{GS} = 0V, f = 1MHz$ | | 1875 | | pF |
| Output capacitance | C_{oss} | | | 150 | | |
| Reverse transfer capacitance | C_{rss} | | | 118 | | |
| Switching Characteristics² | | | | | | |
| Total gate charge | Q_g | $V_{DS} = 20V, V_{GS} = 5V, I_D = 10A$ | | 44.5 | | nC |
| Gate-source charge | Q_{gs} | | | 5.8 | | |
| Gate-drain charge | Q_{gd} | | | 11.9 | | |
| Turn-on delay time | $t_{d(on)}$ | $V_{DD} = 25V, V_{GS} = 10V, R_G = 3\Omega, I_D = 14A$ | | 11.9 | | ns |
| Turn-on rise time | t_r | | | 34.8 | | |
| Turn-off delay time | $t_{d(off)}$ | | | 47.6 | | |
| Turn-off fall time | t_f | | | 11.5 | | |
| Diode Characteristics | | | | | | |
| Continuous Source Current | I_S | $V_G = V_D = 0V, \text{ Force Current}$ | | | 10 | A |
| Pulsed Source Current | I_{SM} | | | | 25 | |
| Diode Forward Voltage ¹ | V_{SD} | $V_{GS} = 0V, I_S = 10A, T_J = 25^\circ\text{C}$ | | 0.82 | 1.2 | V |

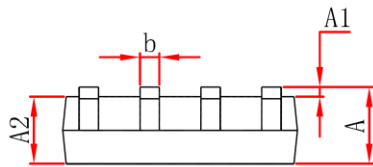
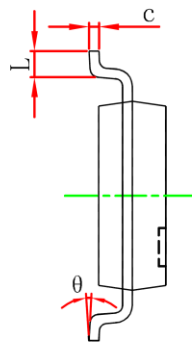
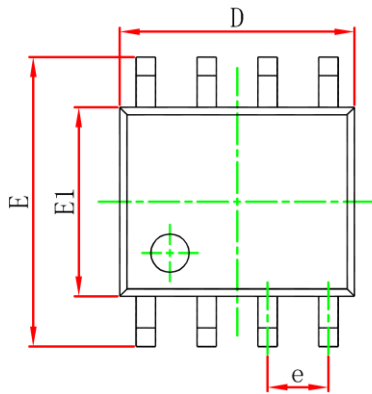
Notes:

1. Pulse Test : Pulse Width $\leq 300\mu s$, duty cycle $\leq 2\%$.
2. Guaranteed by design, not subject to production testing.

Typical Electrical and Thermal Characteristics



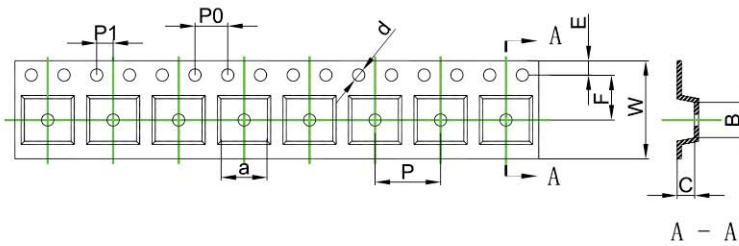
SOP8 Package Information



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 1.350 | 1.750 | 0.053 | 0.069 |
| A1 | 0.100 | 0.250 | 0.004 | 0.010 |
| A2 | 1.350 | 1.550 | 0.053 | 0.061 |
| b | 0.330 | 0.510 | 0.013 | 0.020 |
| c | 0.170 | 0.250 | 0.007 | 0.010 |
| D | 4.800 | 5.000 | 0.189 | 0.197 |
| e | 1.270 (BSC) | | 0.050 (BSC) | |
| E | 5.800 | 6.200 | 0.228 | 0.244 |
| E1 | 3.800 | 4.000 | 0.150 | 0.157 |
| L | 0.400 | 1.270 | 0.016 | 0.050 |
| θ | 0° | 8° | 0° | 8° |

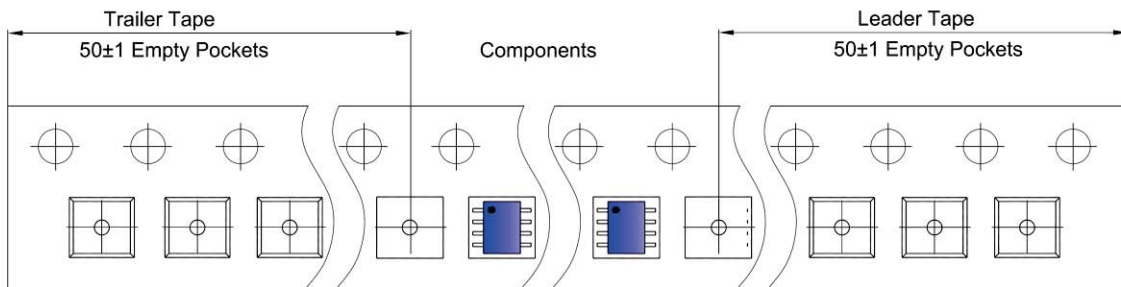
SOP8 Tape and Reel

SOP8 Embossed Carrier Tape

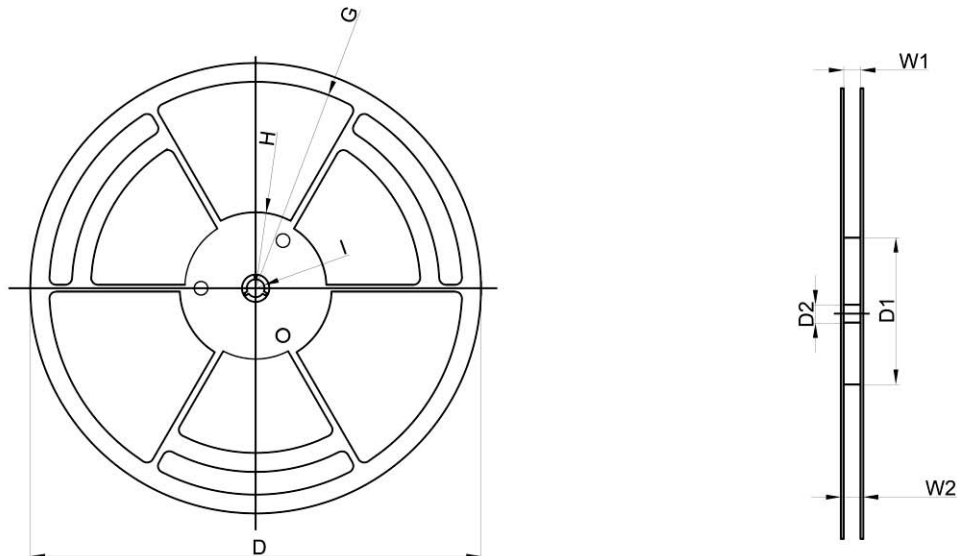


| Dimensions are in millimeter | | | | | | | | | | |
|------------------------------|------|------|------|-------|------|------|------|------|------|-------|
| Pkg type | a | B | C | d | E | F | P0 | P | P1 | W |
| SOP8 | 6.40 | 5.40 | 2.10 | Ø1.50 | 1.75 | 5.50 | 4.00 | 8.00 | 2.00 | 12.00 |

SOP8 Tape Leader and Trailer



SOP8 Reel



| Dimensions are in millimeter | | | | | | | | |
|------------------------------|---------|--------|-------|---------|--------|-------|-------|-------|
| Reel Option | D | D1 | D2 | G | H | I | W1 | W2 |
| 13" Dia | Ø330.00 | 100.00 | 13.00 | R151.00 | R56.00 | R6.50 | 12.40 | 17.60 |

| REEL | Reel Size | Box | Box Size(mm) | Carton | Carton Size(mm) | G.W.(kg) |
|-----------|-----------|-----------|--------------|------------|-----------------|----------|
| 4,000 pcs | 13 inch | 8,000 pcs | 360×360×65 | 64,000 pcs | 565×380×390 | |

单击下面可查看定价，库存，交付和生命周期等信息

[>>GP\(格瑞宝\)](#)