



Product Summary

| $V_{(BR)DSS}$ | $R_{DS(on)TYP}$ | I_D |
|---------------|---------------------|-------|
| 20V | 230m Ω @4.5V | 0.75A |
| | 290m Ω @2.5V | |
| | 380m Ω @1.8V | |

Feature

- Lead Free Product is Acquired
- Surface Mount Package
- N-Channel Switch with Low $R_{DS(on)}$
- Operated at Low Logic Level Gate Drive

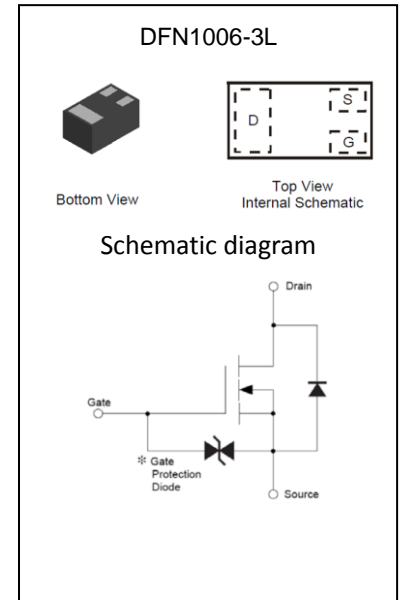
Application

- Load/Power Switching
- Interfacing Switching
- Battery Management for Ultra Small Portable Electronics
- Logic Level Shift

MARKING:



Top View
Bar Denotes Gate
and Source Side



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

| Parameter | Symbol | Value | Unit |
|---|-----------------|-----------|--------------------|
| Drain-Source Voltage | V_{DS} | 20 | V |
| Gate-Source Voltage | V_{GS} | ± 12 | V |
| Continuous Drain Current ⁽¹⁾ | I_D | 0.75 | A |
| Pulsed Drain Current($t_p=10\mu\text{s}$) | I_{DM} | 1.8 | A |
| Power Dissipation ⁽¹⁾ | P_D | 100 | mW |
| Thermal Resistance from Junction to Ambient ⁽¹⁾ | $R_{\theta JA}$ | 1250 | $^\circ\text{C/W}$ |
| Junction Temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{STG} | -55~ +150 | $^\circ\text{C}$ |
| Lead Temperature for Soldering Purposes($1/8''$ from case for 10s) | T_L | 260 | $^\circ\text{C}$ |

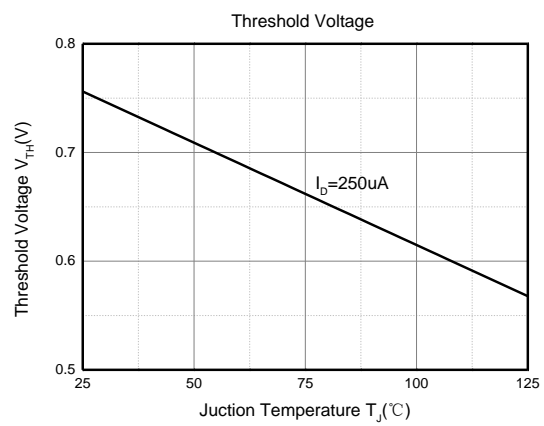
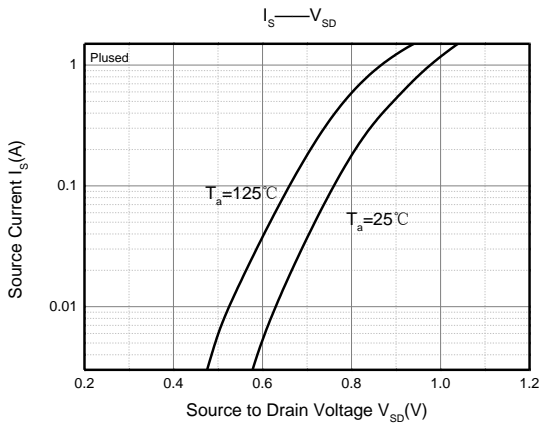
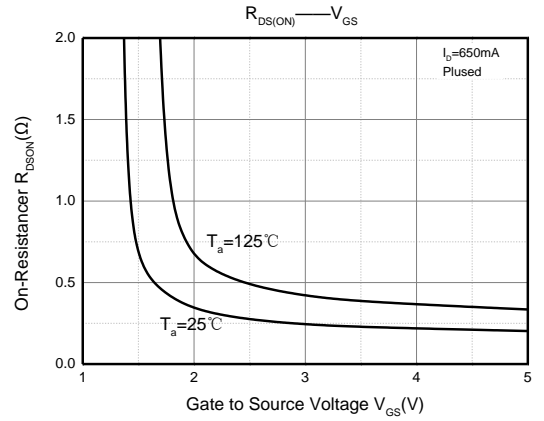
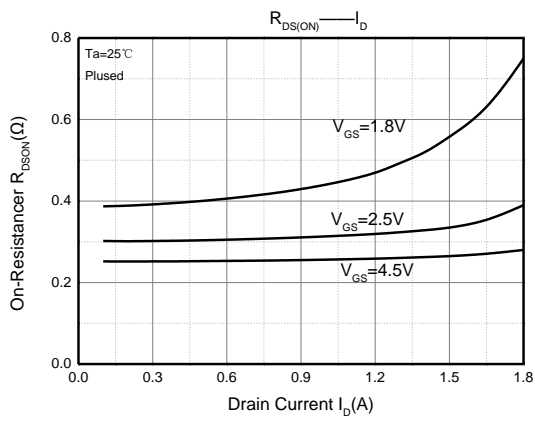
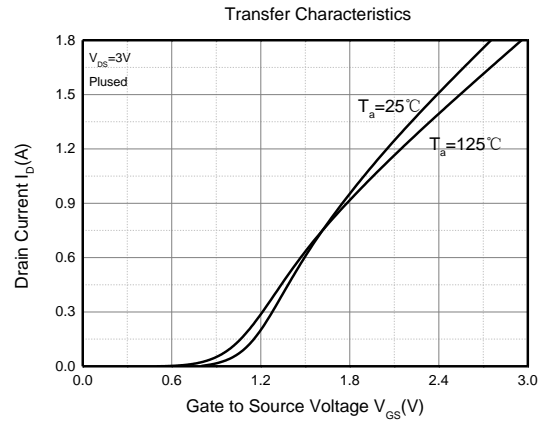
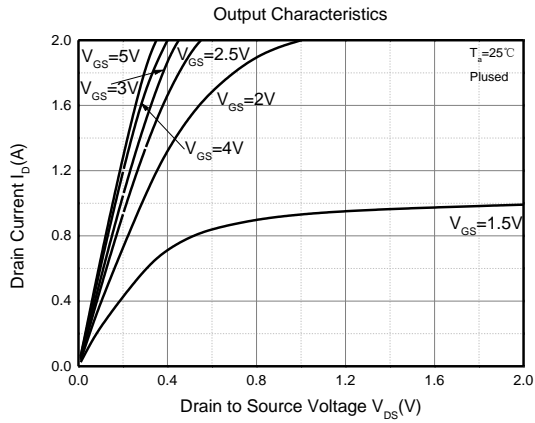
MOSFET ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise noted)

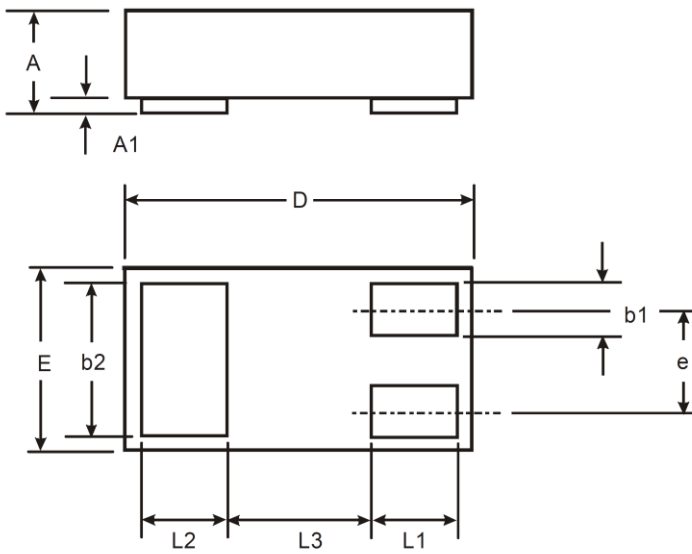
| Parameter | Symbol | Test Condition | Min | Type | Max | Unit |
|--|----------------------|--|------|------|-----|------|
| Static Characteristics | | | | | | |
| Drain-source breakdown voltage | V _{(BR)DSS} | V _{GS} = 0V, I _D =250μA | 20 | | | V |
| Zero gate voltage drain current | I _{DSS} | V _{DS} =20V, V _{GS} = 0V | | | 1 | μA |
| Gate-body leakage current | I _{GSS} | V _{GS} =±10V, V _{DS} = 0V | | | ±20 | μA |
| Gate threshold voltage ⁽²⁾ | V _{GS(th)} | V _{DS} =V _{GS} , I _D =250μA | 0.35 | 0.75 | 1.1 | V |
| Drain-source on-resistance ⁽²⁾ | R _{DS(on)} | V _{GS} =4.5V, I _D =150mA | | 230 | 300 | mΩ |
| | | V _{GS} =2.5V, I _D =150mA | | 290 | 390 | |
| | | V _{GS} =1.8V, I _D =150mA | | 380 | 570 | |
| | | V _{GS} =1.5V, I _D =20mA | | 460 | | |
| | | V _{GS} =1.2V, I _D =10mA | | 1200 | | |
| Forward tranconductance | g _{FS} | V _{DS} =10V, I _D =150mA | 150 | | | mS |
| Dynamic characteristics⁽⁴⁾ | | | | | | |
| Input Capacitance | C _{iss} | V _{DS} =16V, V _{GS} =0V, f=1MHz | | 79 | 120 | pF |
| Output Capacitance | C _{oss} | | | 13 | 20 | |
| Reverse Transfer Capacitance | C _{rss} | | | 9 | 15 | |
| Switching Characteristics⁽⁴⁾ | | | | | | |
| Turn-on delay time ⁽³⁾ | t _{d(on)} | V _{DS} =10V, I _D =500mA, V _{GS} =4.5V, R _G =10Ω | | 6.7 | | ns |
| Turn-on rise time ⁽³⁾ | t _r | | | 4.8 | | |
| Turn-off delay time ⁽³⁾ | t _{d(off)} | | | 17.3 | | |
| Turn-off fall time ⁽³⁾ | t _f | | | 7.4 | | |
| Source-Drain Diode characteristics | | | | | | |
| Diode Forward voltage ⁽³⁾ | V _{DS} | I _S =0.15A, V _{GS} = 0V | | | 1.2 | V |

Notes:

1. Surface mounted on FR4 board using the minimum recommended pad size.
2. Pulse Test : Pulse Width=300μs, Duty Cycle=2%.
3. Switching characteristics are independent of operating junction temperatures.
4. Guaranteed by design, not subject to producing.

Typical Electrical and Thermal Characteristics

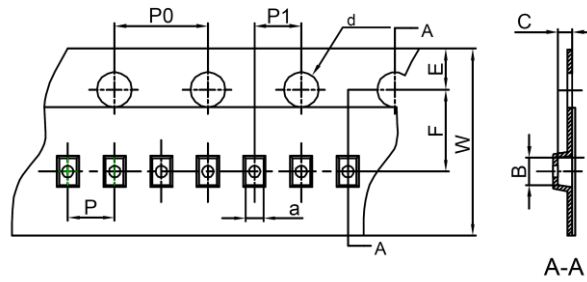


DFN1006-3L Package Information


| X1-DFN1006-3 | | | |
|-----------------------------|------|-------|------|
| Dim | Min | Max | Typ |
| A | 0.47 | 0.53 | 0.50 |
| A1 | 0 | 0.05 | 0.03 |
| b1 | 0.10 | 0.20 | 0.15 |
| b2 | 0.45 | 0.55 | 0.50 |
| D | 0.95 | 1.075 | 1.00 |
| E | 0.55 | 0.675 | 0.60 |
| e | — | — | 0.35 |
| L1 | 0.20 | 0.30 | 0.25 |
| L2 | 0.20 | 0.30 | 0.25 |
| L3 | — | — | 0.40 |
| All Dimensions in mm | | | |

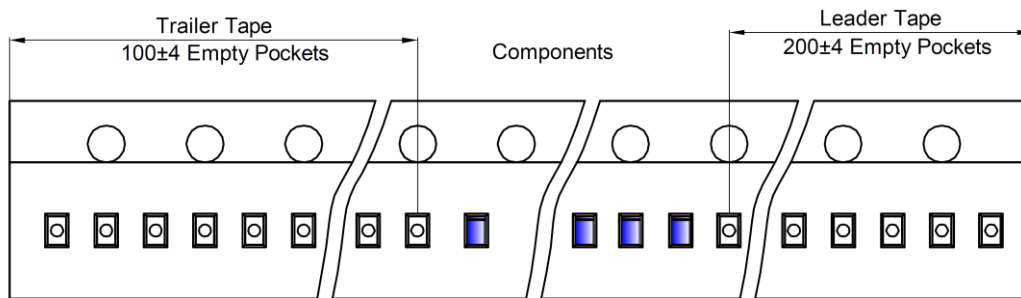
DFN1006-3L Tape and Reel

DFN1006-3L Embossed Carrier Tape

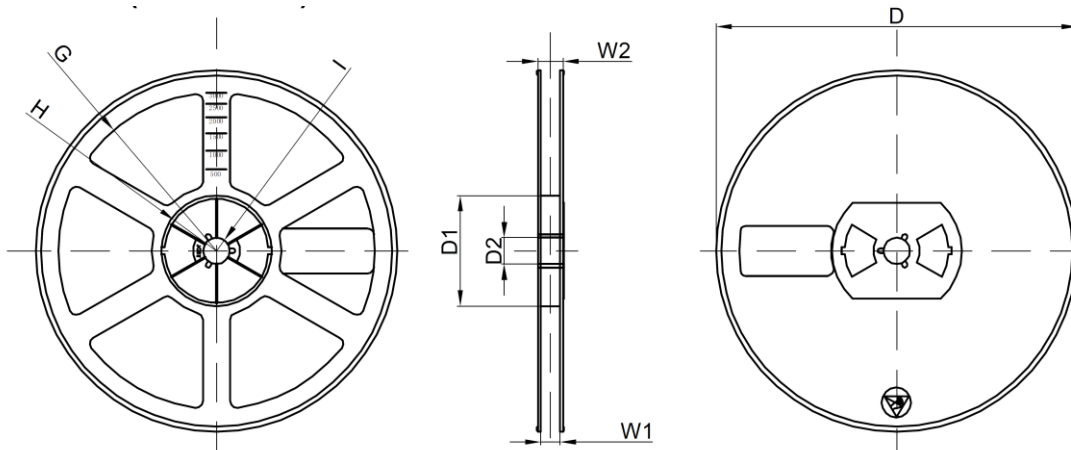


| Dimensions are in millimeter | | | | | | | | | | |
|------------------------------|------|------|------|-------|------|------|------|------|------|------|
| Pkg type | a | B | C | d | E | F | P0 | P | P1 | W |
| DFN1006-3L | 0.66 | 1.15 | 0.66 | Ø1.50 | 1.75 | 3.50 | 4.00 | 2.00 | 2.00 | 8.00 |

DFN1006-3L Tape Leader and Trailer



DFN1006-3L Reel



| Dimensions are in millimeter | | | | | | | | |
|------------------------------|---------|-------|-------|--------|--------|-------|------|-------|
| Reel Option | D | D1 | D2 | G | H | I | W1 | W2 |
| 7" Dia | Ø178.00 | 54.40 | 13.00 | R78.00 | R25.60 | R6.50 | 9.50 | 12.30 |

| REEL | Reel Size | Box | Box Size(mm) | Carton | Carton Size(mm) | G.W.(kg) |
|-----------|-----------|-------------|--------------|-------------|-----------------|----------|
| 10000 pcs | 7 inch | 100,000 pcs | 203×203×195 | 400,000 pcs | 438×438×220 | |

单击下面可查看定价，库存，交付和生命周期等信息

[>>GP\(格瑞宝\)](#)