

Ordering number : ENN8145



SANYO Semiconductors

DATA SHEET

ECH8305 — P-Channel Silicon MOSFET
General-Purpose Switching Device Applications

Features

- Low ON-resistance.
- 4V drive.

Specifications

Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|-----------------------------|------------------|---|-------------|------|
| Drain-to-Source Voltage | V _{DSS} | | -60 | V |
| Gate-to-Source Voltage | V _{GSS} | | ±20 | V |
| Drain Current (DC) | I _D | | -4 | A |
| Drain Current (Pulse) | I _{DP} | PW≤10μs, duty cycle≤1% | -20 | A |
| Allowable Power Dissipation | P _D | Mounted on a ceramic board (900mm²×0.8mm) | 1.6 | W |
| Channel Temperature | T _{ch} | | 150 | °C |
| Storage Temperature | T _{stg} | | -55 to +150 | °C |

Electrical Characteristics at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--|----------------------|---|---------|------|------|------|
| | | | min | typ | max | |
| Drain-to-Source Breakdown Voltage | V _{(BR)DSS} | I _D =-1mA, V _{GS} =0 | -60 | | | V |
| Zero-Gate Voltage Drain Current | I _{DSS} | V _{DS} =-60V, V _{GS} =0 | | | -1 | μA |
| Gate-to-Source Leakage Current | I _{GSS} | V _{GS} =±16V, V _{DS} =0 | | | ±10 | μA |
| Cutoff Voltage | V _{GS(off)} | V _{DS} =-10V, I _D =-1mA | -1.0 | | -2.4 | V |
| Forward Transfer Admittance | y _{fs} | V _{DS} =-10V, I _D =-2A | 4.3 | 7.3 | | S |
| Static Drain-to-Source On-State Resistance | R _{DS(on)1} | I _D =-2A, V _{GS} =-10V | | 62 | 85 | mΩ |
| | R _{DS(on)2} | I _D =-1A, V _{GS} =-4V | | 82 | 115 | mΩ |
| Input Capacitance | C _{iss} | V _{DS} =-20V, f=1MHz | | 1680 | | pF |
| Output Capacitance | C _{oss} | V _{DS} =-20V, f=1MHz | | 122 | | pF |
| Reverse Transfer Capacitance | C _{rss} | V _{DS} =-20V, f=1MHz | | 102 | | pF |
| Turn-ON Delay Time | t _{d(on)} | See specified Test Circuit. | | 15 | | ns |
| Rise Time | t _r | See specified Test Circuit. | | 17 | | ns |
| Turn-OFF Delay Time | t _{d(off)} | See specified Test Circuit. | | 185 | | ns |
| Fall Time | t _f | See specified Test Circuit. | | 65 | | ns |
| Total Gate Charge | Q _g | V _{DS} =-30V, V _{GS} =-10V, I _D =-4A | | 34 | | nC |
| Gate-to-Source Charge | Q _{gs} | V _{DS} =-30V, V _{GS} =-10V, I _D =-4A | | 4.5 | | nC |
| Gate-to-Drain "Miller" Charge | Q _{gd} | V _{DS} =-30V, V _{GS} =-10V, I _D =-4A | | 5.8 | | nC |
| Diode Forward Voltage | V _{SD} | I _S =-4A, V _{GS} =0 | -0.81 | | -1.2 | V |

Marking : JG

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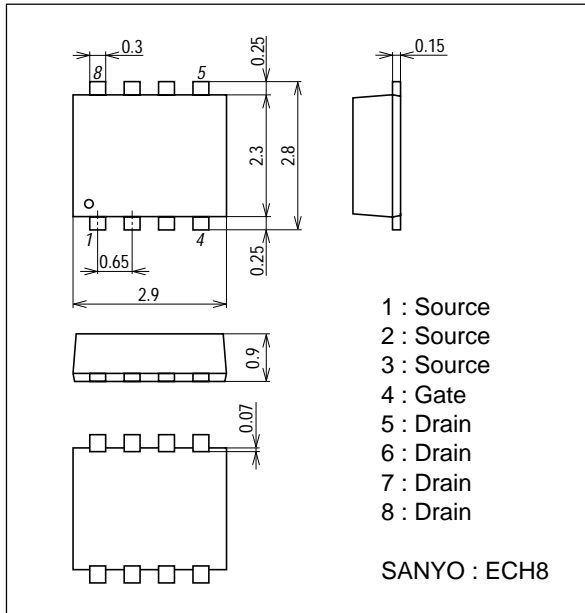


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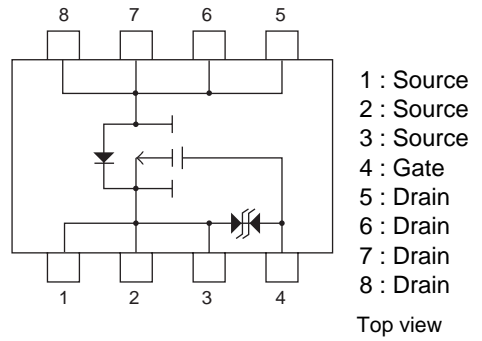
Package Dimensions

unit : mm

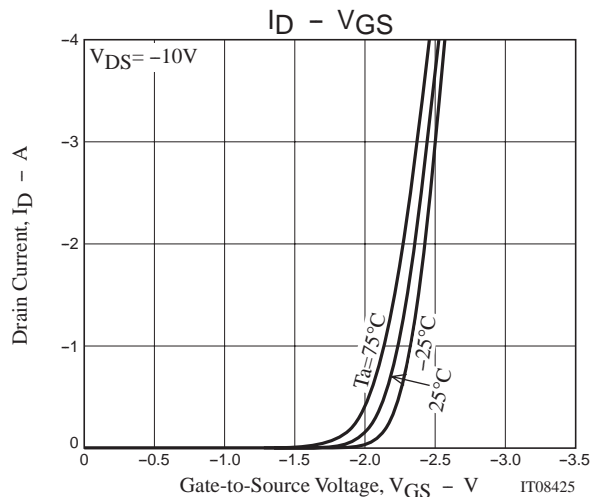
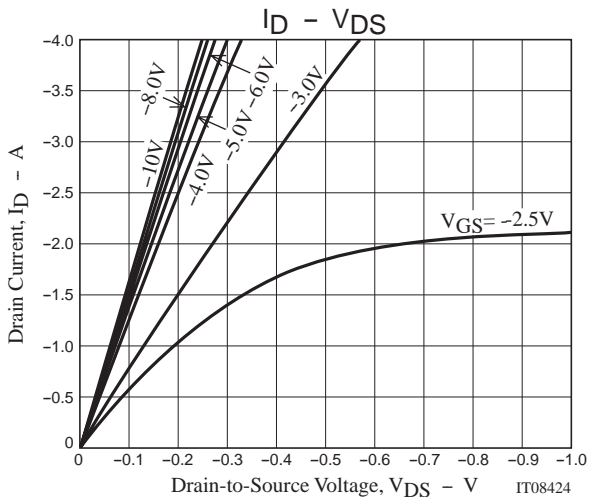
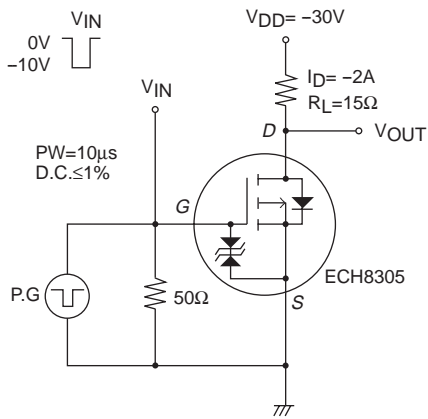
2222A



Electrical Connection



Switching Time Test Circuit



ECH8305

