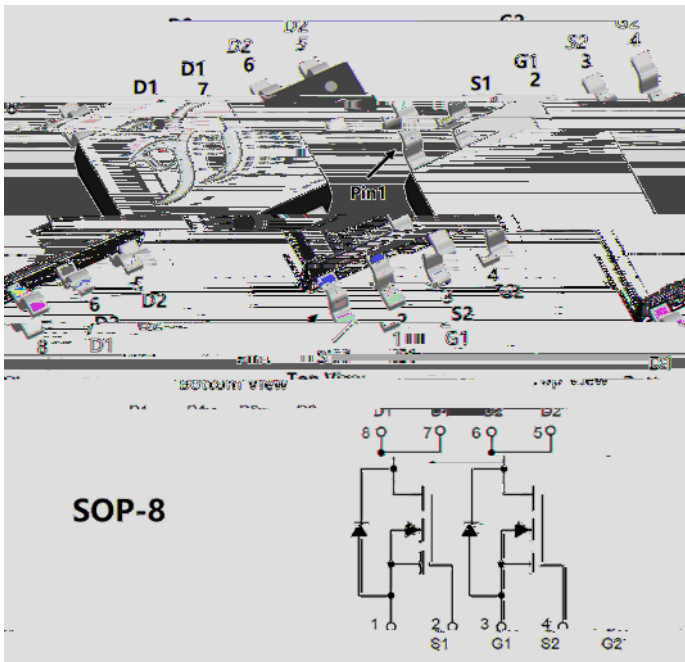




## N-Channel Enhancement Mode Field Effect Transistor



## Product Summary

|                                    |        |
|------------------------------------|--------|
| • $V_{DS}$                         | 60V    |
| • $I_D$                            | 5.0A   |
| • $R_{DS(ON)}$ (at $V_{GS}=10V$ )  | 44mohm |
| • $R_{DS(ON)}$ (at $V_{GS}=4.5V$ ) | 49mohm |

## General Description

- Trench Power MV MOSFET technology
- High density cell design for Low  $R_{DS(ON)}$
- High Speed switching
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free

## Applications

- Battery protection
- Load switch
- Power management

■ Absolute Maximum Ratings ( $T_A=25^\circ\text{C}$  unless otherwise noted)

| Parameter                                                          |                                        | Symbol          | Maximum  | Unit               |
|--------------------------------------------------------------------|----------------------------------------|-----------------|----------|--------------------|
| Drain-source Voltage                                               |                                        | $V_{DS}$        | 60       | V                  |
| Gate-source Voltage                                                |                                        | $V_{GS}$        | $\pm 20$ | V                  |
| Drain Current                                                      | $T_A=25^\circ\text{C}$ @ Steady State  | $I_D$           | 5.0      | A                  |
|                                                                    | $T_A=70^\circ\text{C}$ @ Steady State  |                 | 4.0      |                    |
|                                                                    | $T_A=125^\circ\text{C}$ @ Steady State |                 | 2.2      |                    |
| Pulsed Drain Current <sup>A</sup>                                  |                                        | $I_{DM}$        | 25       | A                  |
| Total Power Dissipation @ $T_A=25^\circ\text{C}$                   |                                        | $P_D$           | 3.1      | W                  |
| Thermal Resistance Junction-to-Ambient @ Steady State <sup>B</sup> |                                        | $R_{\theta JA}$ | 40.3     | $^\circ\text{C/W}$ |
| Avalanche energy <sup>C</sup>                                      |                                        | EAS             | 30.25    | mJ                 |

Junction and Storage Temperature Range

 $T_J, T_{STG}$ 

-55 +150

3% OUTER CARTON

|           |    |        |      |      | QUANTITY(pcs) | DELIVERY MODE |
|-----------|----|--------|------|------|---------------|---------------|
| YJS05N06A | F2 | Q05N06 | 4000 | 8000 | 64000         | 13" reel      |

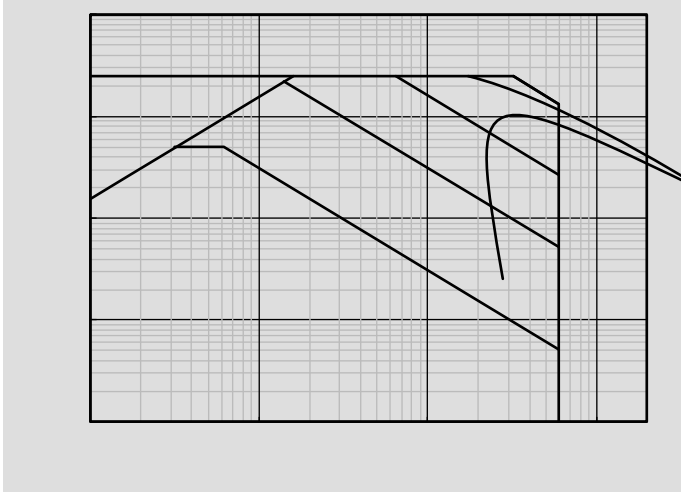


## YJS05N06A

### ■ Electrical Characteristics ( $T_j=25^\circ\text{C}$ unless otherwise noted)

| Parameter                       | Symbol       | Conditions                                     | Min | Typ | Max       | Units   |
|---------------------------------|--------------|------------------------------------------------|-----|-----|-----------|---------|
| Static Parameter                |              |                                                |     |     |           |         |
| Drain-Source Breakdown Voltage  | $BV_{DSS}$   | $V_{GS}=0V, I_D=250\mu A$                      | 60  |     |           | V       |
| Zero Gate Voltage Drain Current | $I_{DSS}$    | $V_{DS}=60V, V_{GS}=0V$                        |     |     | 1         | $\mu A$ |
|                                 |              | $V_{DS}=60V, V_{GS}=0V, T_j=125^\circ\text{C}$ |     |     | 100       |         |
| Gate-Body Leakage Current       | $I_{GSS}$    | $V_{GS}=\pm 20V, V_{DS}=0V$                    |     |     | $\pm 100$ | nA      |
| Gate Threshold Voltage          | $V_{GS(th)}$ | $V_{DS}=V_{GS}, I_D$                           |     |     |           |         |









## ■SOP-8 Package information

| SYMBOL | MIN.     |       |          |
|--------|----------|-------|----------|
|        | 0.053    | 0.069 |          |
| B      | 0.004    | 0.010 |          |
|        |          | 0.061 |          |
| D      |          | 0.020 |          |
| E      |          |       |          |
| F      |          |       |          |
| G      | 0.050BSC |       | 1.270BSC |
| H      |          |       |          |
| J      |          |       |          |
| K      |          |       |          |
|        | 0°       |       |          |



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