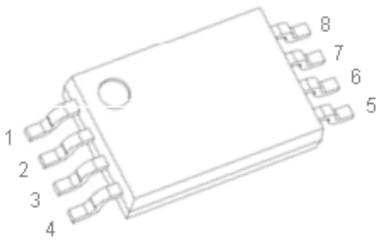
SZCJ Shenzhen Changji Semiconductor Co., LTD.

# TSSOP8 Plastic-Encapsulate MOSFET

## CJS8810 Dual N-Channel MOSFET

| $V_{(BR)DSS}$ | $R_{DS(on)}$TYP | $I_D$ |
|---|---|---|
| 20V | 14mΩ@10V | 7A |
| | 14.2mΩ@4.5V | |
| | 15.4mΩ@3.8V | |
| | 18.2mΩ@2.5V | |

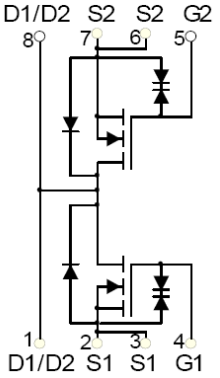
**TSSOP8**



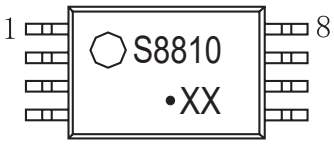

### DESCRIPTION

The CJS8810 uses advanced trench technology to provide excellent $R_{DS(ON)}$ and low gate charge. It is ESD protected. This device is suitable for use as a uni-directional or bi-directional load switch,facilitated by its common-drain configuration.

### Equivalent Circuit




### MARKING:




S8810 = Device code.
Solid dot = Green molding compound device, if none, the normal device.
XX = Code.

### ABSOLUTE MAXIMUM RATINGS ($T_a$=25℃ unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Drain-Source Voltage | $V_{DS}$ | 20 | V |
| Gate-Source Voltage | $V_{GS}$ | ±12 | V |
| Continuous Drain Current | $I_D$ ④ | 7 | A |
| Pulsed Drain Current | $I_{DM}$ ① | 30 | A |
| Maximum Power Dissipation | $P_D$ ④ | 1.67 | W |
| Operating Junction and Storage Temperature Range | $T_J$ ,$T_{stg}$ | -55~+150 | ℃ |

### Thermal Characteristics

| Parameter | | Symbol | Value | | Unit |
|---|---|---|---|---|---|
| | | | Typ | Max | |
| Thermal Resistance from Junction to Ambient | t≤10s | $R_{\theta JA}$④ | 58 | 75 | ℃/W |
| | Steady State | | 85 | 110 | ℃/W |

## MOSFET ELECTRICAL CHARACTERISTICS

**$T_a$=25℃ unless otherwise specified**

| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| **Off characteristics** | | | | | | |
| Drain-source breakdown voltage | $V_{(BR)\,DSS}$ | $V_{GS}$ = 0V, $I_D$ =250μA | 20 | | | V |
| Zero gate voltage drain current | $I_{DSS}$ | $V_{DS}$ =16V, $V_{GS}$ =0V | | | 1 | μA |
| Gate-body leakage current | $I_{GSS}$ | $V_{DS}$ =0V, $V_{GS}$ =±4.5V | | | ±1 | |
| | | $V_{DS}$ =0V, $V_{GS}$ =±8V | | | ±10 | |
| **On characteristics** ② | | | | | | |
| Gate-threshold voltage | $V_{GS(th)}$ | $V_{DS}$ =$V_{GS}$, $I_D$ =250μA | 0.4 | | 1.0 | V |
| Static drain-source on-sate resistance | $R_{DS(on)}$ | $V_{GS}$ =10V, $I_D$ =3A | 9.0 | 14.0 | 17 | mΩ |
| | | $V_{GS}$ =4.5V, $I_D$ =3A | 10.5 | 14.2 | 19 | |
| | | $V_{GS}$ =3.8V, $I_D$ =3A | 11.5 | 15.4 | 21 | |
| | | $V_{GS}$ =2.5V, $I_D$ =3A | 13.0 | 18.2 | 23 | |
| Forward transconductance | $g_{FS}$ | $V_{DS}$ =5V, $I_D$ =7A | 9 | | | S |
| **Dynamic characteristics** ②③ | | | | | | |
| Input capacitance | $C_{iss}$ | $V_{DS}$ =10V,$V_{GS}$ =0V, f =1MHz | | 1150 | 2300 | pF |
| Output capacitance | $C_{oss}$ | | | 185 | 370 | |
| Reverse transfer capacitance | $C_{rss}$ | | | 145 | 290 | |
| **Switching characteristics** ②③ | | | | | | |
| Total gate charge | $Q_g$ | $V_{GS}$=4.5V, $V_{DS}$=10V, $I_D$=7A | | 15 | 30 | nC |
| Gate-source charge | $Q_{gs}$ | | | 0.8 | 1.6 | |
| Gate-drain charge | $Q_{gd}$ | | | 3.2 | 6.4 | |
| Turn-on delay time | $t_{d(on)}$ | $V_{DS}$=10V, $V_{GS}$=5V,$R_G$=3Ω, $R_L$=1.35Ω | | 6 | 12 | ns |
| Turn-on rise time | $t_r$ | | | 13 | 26 | |
| Turn-off delay time | $t_{d(off)}$ | | | 52 | 104 | |
| Turn-off fall time | $t_f$ | | | 16 | 32 | |
| **Drain-Source Diode Characteristics** | | | | | | |
| Drain-source diode forward voltage | $V_{SD}$ ② | $V_{GS}$ =0V, $I_S$=1.0A | | | 1.0 | V |
| Continuous drain-source diode forward current | $I_S$ ④ | | | | 7 | A |
| Pulsed drain-source diode forward current | $I_{SM}$ ① | | | | 30 | A |

Notes:

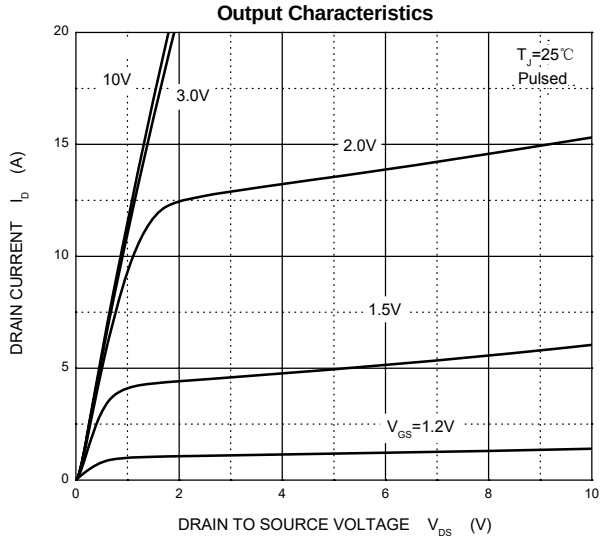
1.$P_W$≤10μs, Duty cycle≤1%.

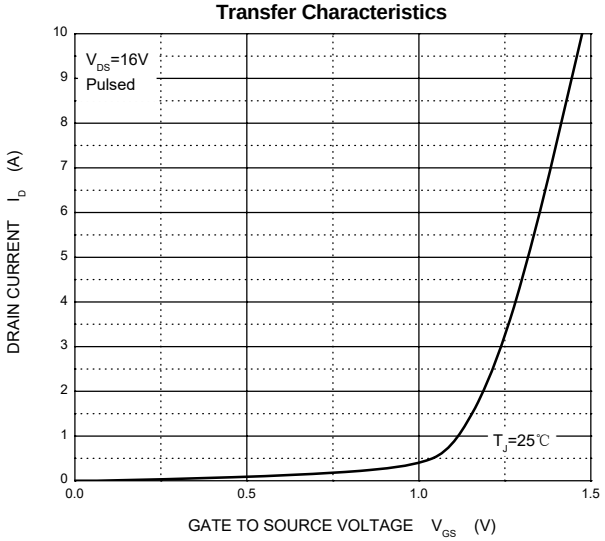
2.Pulse Test : Pulse Width≤300μs, duty cycle ≤2%.

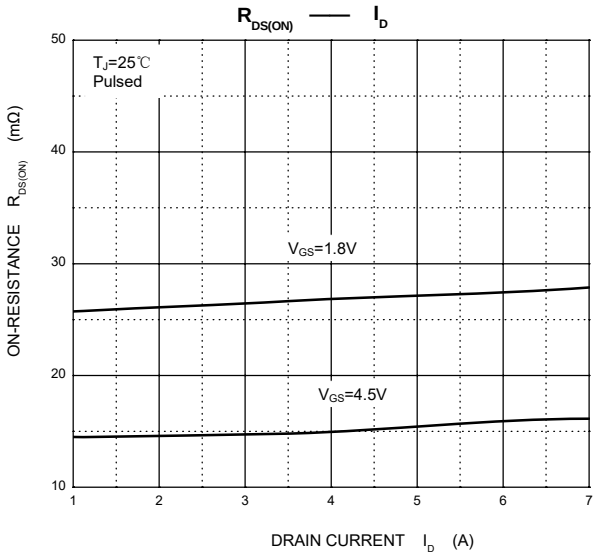
3.Guaranteed by design, not subject to production.

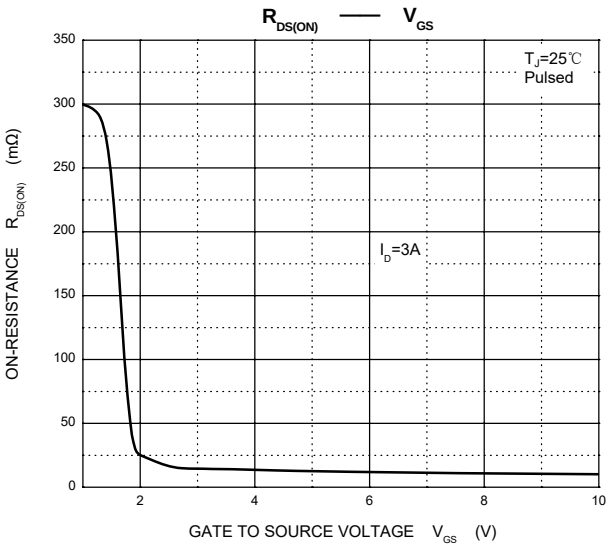
4.The value of $R_{\theta JA}$ is measured with the device mounted on 1 in 2 FR-4 board with 2oz. Copper, in a still air environment with $T_a$=25℃,t ≤10 sec.

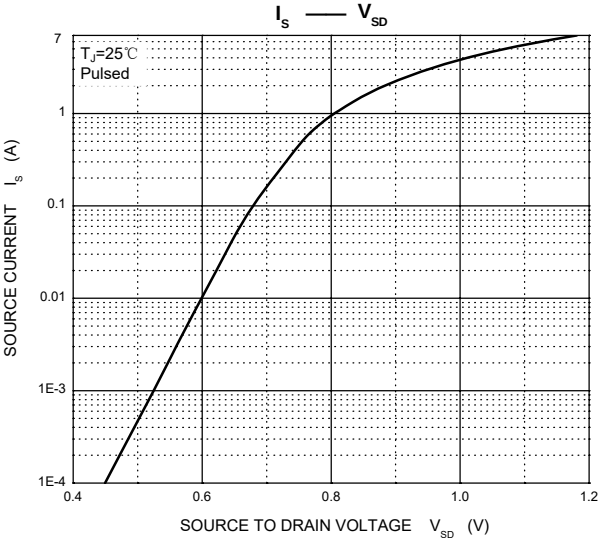
## Typical Characteristics

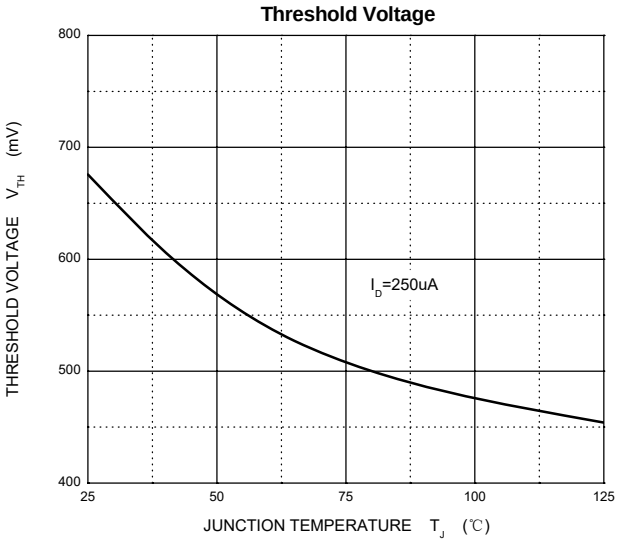


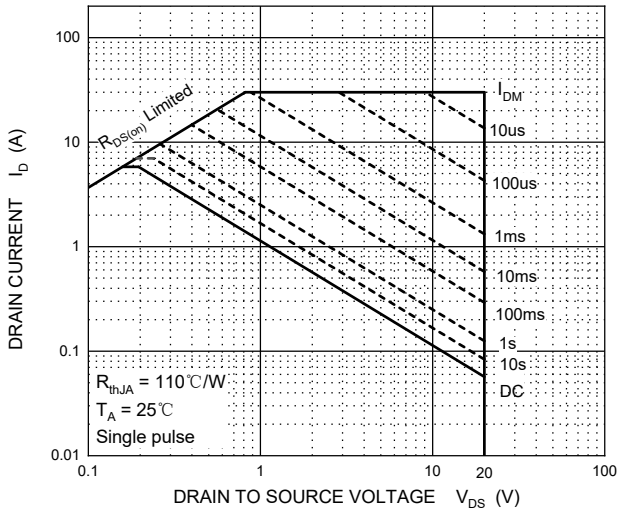



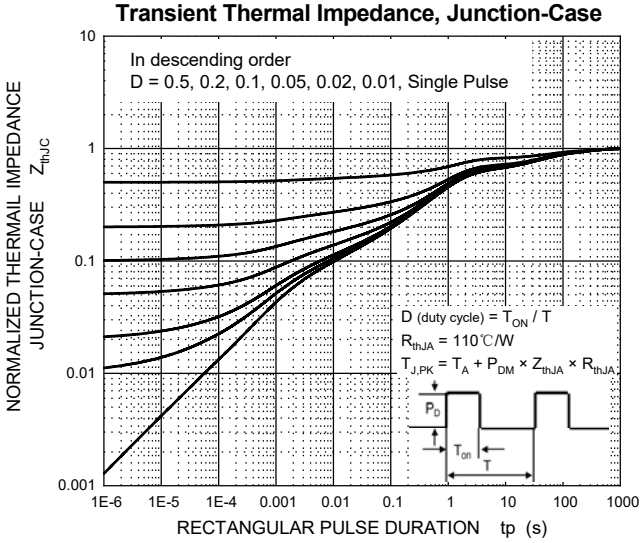



## Typical Characteristics

**Maximum Safe Operating Area**



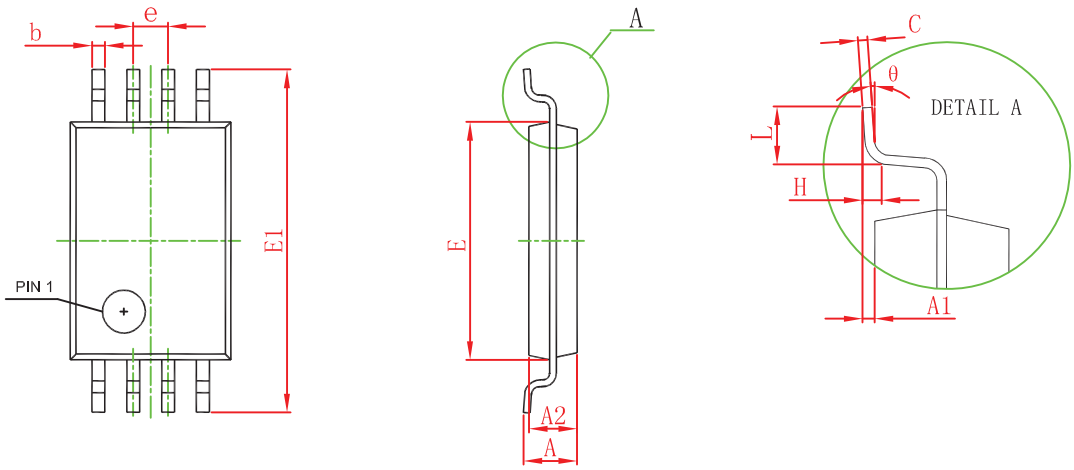

**Transient Thermal Impedance, Junction-Case**





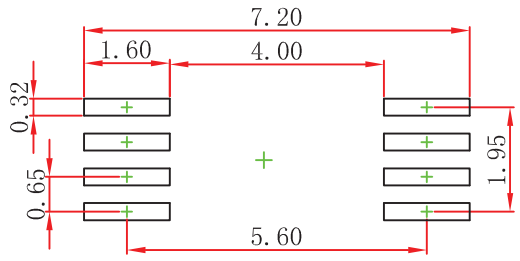

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## TSSOP8 Package Outline Dimensions




| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|---|---|---|---|---|
| | **Min** | **Max** | **Min** | **Max** |
| D | 2. 900 | 3. 100 | 0. 114 | 0. 122 |
| E | 4. 300 | 4. 500 | 0. 169 | 0. 177 |
| b | 0. 190 | 0. 300 | 0. 007 | 0. 012 |
| c | 0. 090 | 0. 200 | 0. 004 | 0. 008 |
| E1 | 6. 250 | 6. 550 | 0. 246 | 0. 258 |
| A | | 1. 200 | | 0. 047 |
| A2 | 0. 800 | 1. 000 | 0. 031 | 0. 039 |
| A1 | 0. 050 | 0. 150 | 0. 002 | 0. 006 |
| e | 0. 65 (BSC) | | 0. 026 (BSC) | |
| L | 0. 500 | 0. 700 | 0. 020 | 0. 028 |
| H | 0.25(TYP | | 0.01(TYP | |
| θ | 1° | 7° | 1° | 7° |

## TSSOP8 Suggested Pad Layout



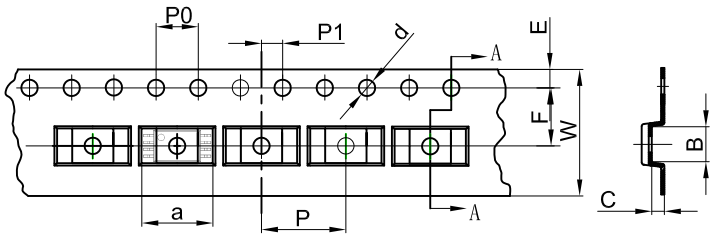

Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

NOTICE

SZCJ reserves the right to make modifications,enhan nts,improvements,corrections or other es without further notice to any product herein. SZCJ does not assume any liability arising out of the application or use of any product described h

## TSSOP8 Tape and Reel

### TSSOP8 Embossed Carrier Tape



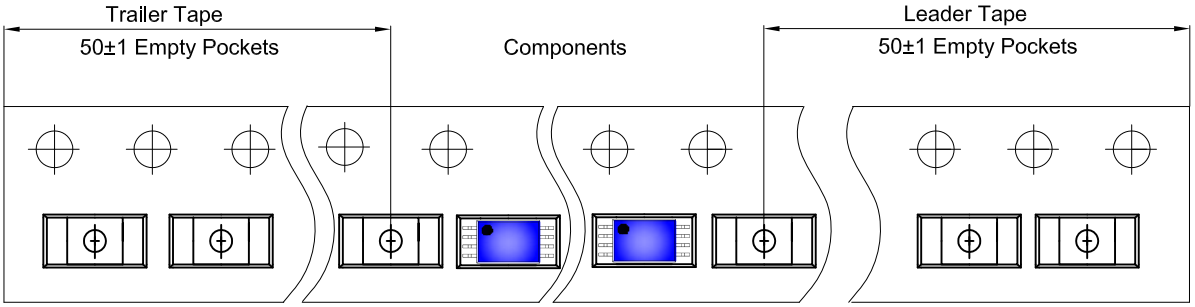

Packaging Description:

TSSOP8 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 13" or 33cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

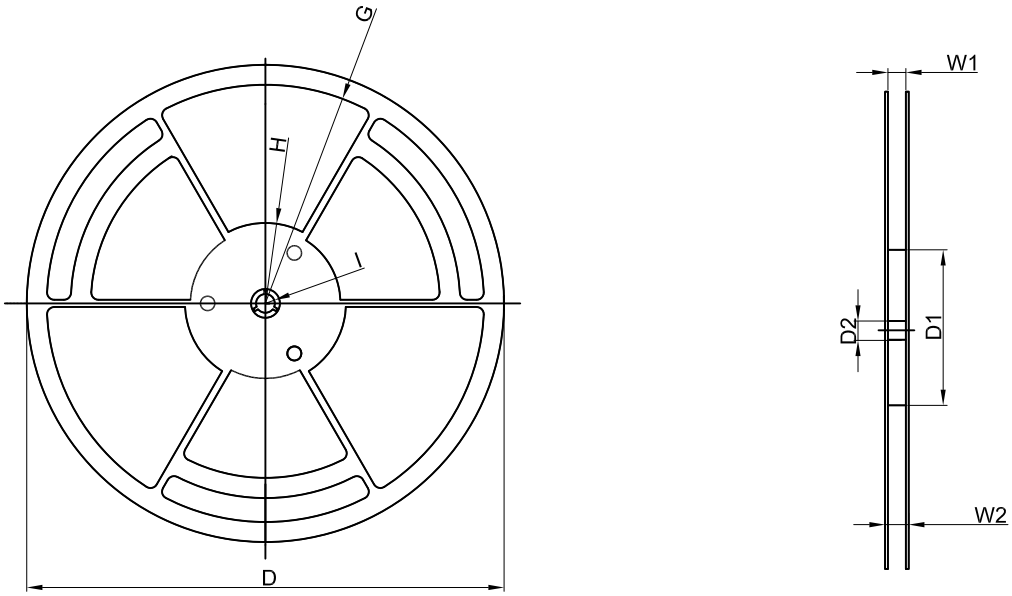
ALL DIM IN mm

| Dimensions are in millimeter | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Pkg type | a | B | C | d | E | F | P0 | P | P1 | W |
| TSSOP8 | 6.76 | 3.30 | 1.20 | Ø1.50 | 1.75 | 5.50 | 4.00 | 8.00 | 2.00 | 12.00 |

### TSSOP8 Tape Leader and Trailer




### TSSOP8 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) |
|---|---|---|---|---|---|---|
| 3,000 pcs | 13 inch | 6,000 pcs | 360×360×65 | 30,000 pcs | 378×358×382 | |

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