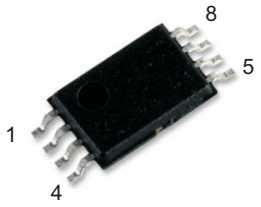
CJS8810-HF

N-Channel
RoHS Device
Halogen Free



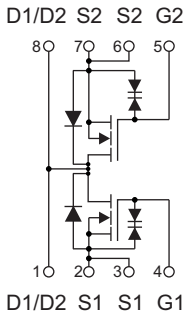
Features

- Uses advanced trench technology.
- Excellent $R_{DS(ON)}$ and low gate charge.

Mechanical data

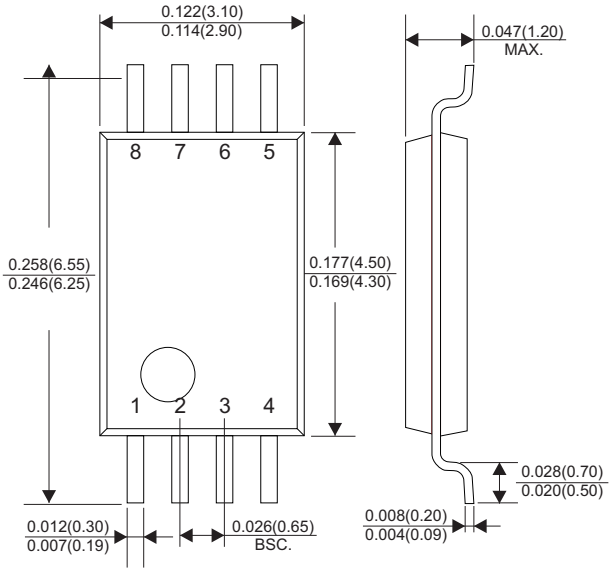
- Case: TSSOP8, molded plastic.

Circuit diagram



$V_{(BR)DSS}$	$R_{DS(on)}$ MAX	I_D
20V	20mΩ@10V	7A
	22mΩ@4.5V	
	24mΩ@3.8V	
	26mΩ@2.5V	
	35mΩ@1.8V	

TSSOP8



Dimensions in inches and (millimeter)

Maximum Ratings (at Ta=25°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	I_D	7	A
Pulsed drain current (Note 1)	I_{DM}	30	A
Total power dissipation (Note 2)	P_D	0.7	W
Thermal resistance from junction to ambient	$R_{\theta JA}$	125	°C/W
Junction temperature range	T_J	150	°C
Storage temperature range	T_{STG}	-55 to +150	°C
Lead temperature for soldering purposes(1/8'' from case for 10s)	T_L	260	°C

Note: 1. Repetitive rating：Pulse width limited by junction temperature.
2. Device mounted on FR4 substrate pcb board 2 oz copper with minimum recommended pad layout.

Company reserves the right to improve product design , functions and reliability without notice.

Electrical Characteristics (at TA=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameters						
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	μA
		V_{DS} =0V , V_{GS}=±8V			±10	
Gate threshold voltage (Note 1)	$V_{GS(th)}$	V_{DS} =V_{GS} , I_D=250μA	0.4		1	V
Drain-source on-resistance (Note 1)	$R_{DS(on)}$	V_{GS}=10V , I_D=7A		14	20	mΩ
		V_{GS}=4.5V , I_D=6.6A		16	22	
		V_{GS}=3.8V , I_D=6A		17	24	
		V_{GS}=2.5V , I_D=5.5A		20	26	
		V_{GS}=1.8V , I_D=5A		28	35	
Forward transconductance (Note 1)	g_{FS}	V_{DS}=5V , I_D=7A	9			S
Diode forward voltage (Note 1)	V_{SD}	I_S=1A , V_{GS}=0V			1	V
Dynamic Parameters (Note 2)						
Input capacitance	C_{iss}	V_{DS}=10V , V_{GS}=0V, f=1MHz		1150		pF
Output capacitance	C_{oss}			185		
Reverse transfer capacitance	C_{rss}			145		
Total gate charge	Q_g	V_{DS}=10V , V_{GS}=4.5V, I_D=7A		15		nC
Gate-source charge	Q_{gs}			0.8		
Gate-drain charge	Q_{gd}			3.2		
Switching Parameters (Note 2)						
Turn-on delay time	$t_{d(on)}$	V_{GS}=5V , V_{DD}=10V R_L=1.35Ω , R_{GEN}=3Ω		6		nS
Rise time	t_r			13		
Turn-off delay time	$t_{d(off)}$			52		
Fall time	t_f			16		

Notes:

1. Pulse test: Pulse width≤300μs, Duty cycle≤0.5%.
2. Guaranteed by design, not subject to production testing.

RATING AND CHARACTERISTIC CURVES (CJS8810-HF)

Fig.1 - Output Characteristics

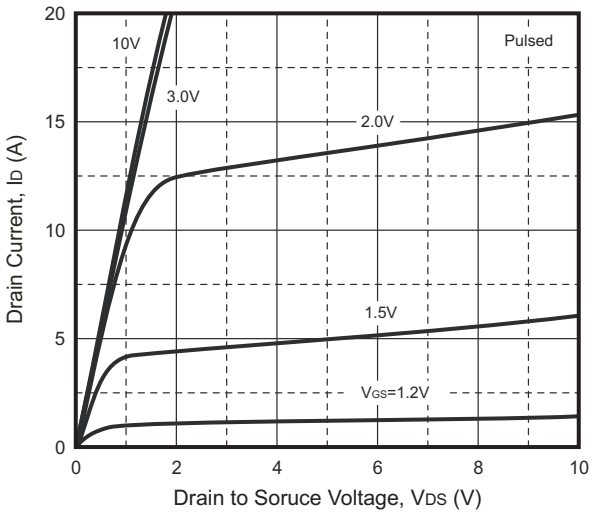


Fig.2 - Transfer Characteristics

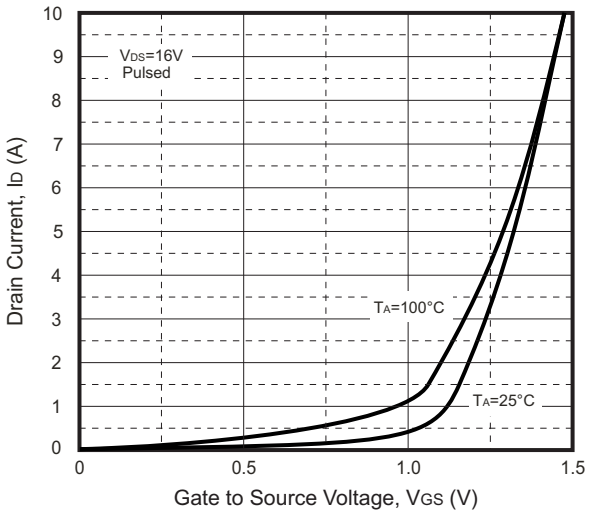


Fig.3 - RDS(ON) — ID

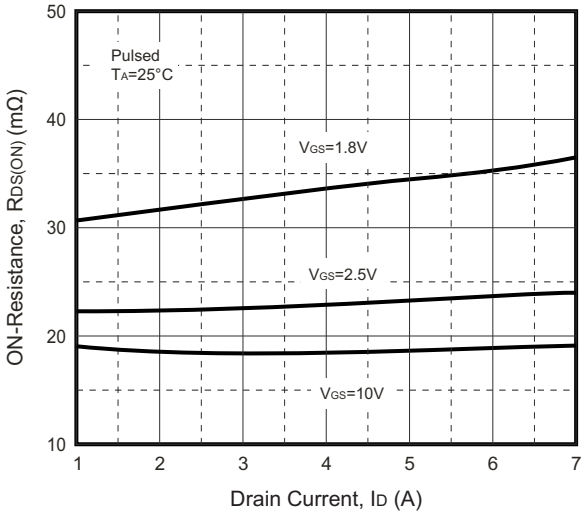


Fig.4 - RDS(ON) — VGS

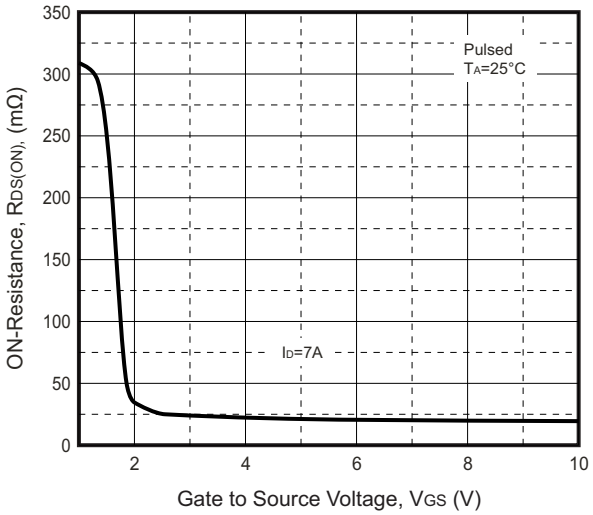


Fig.5 - IS — VSD

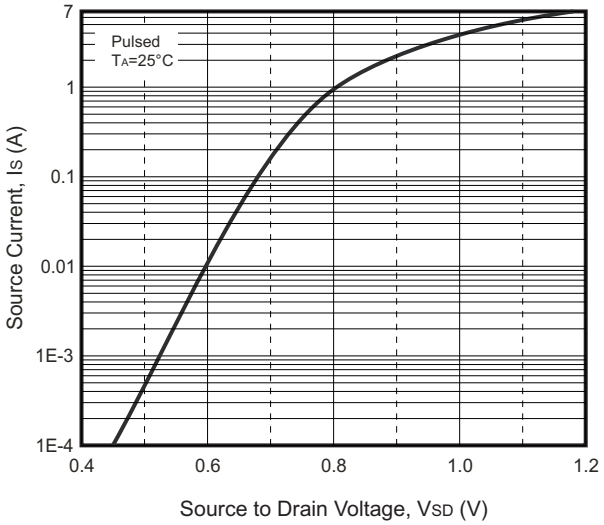
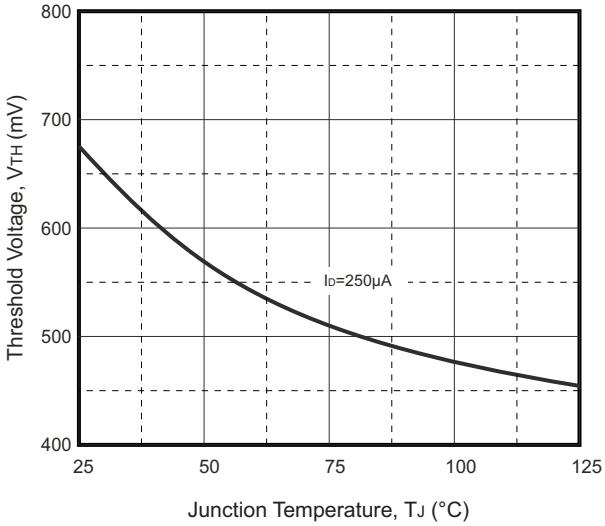


Fig.6 - Threshold Voltage



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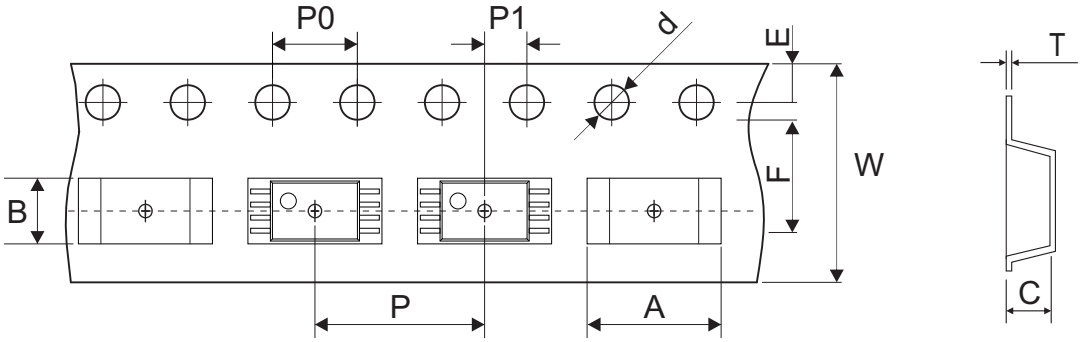
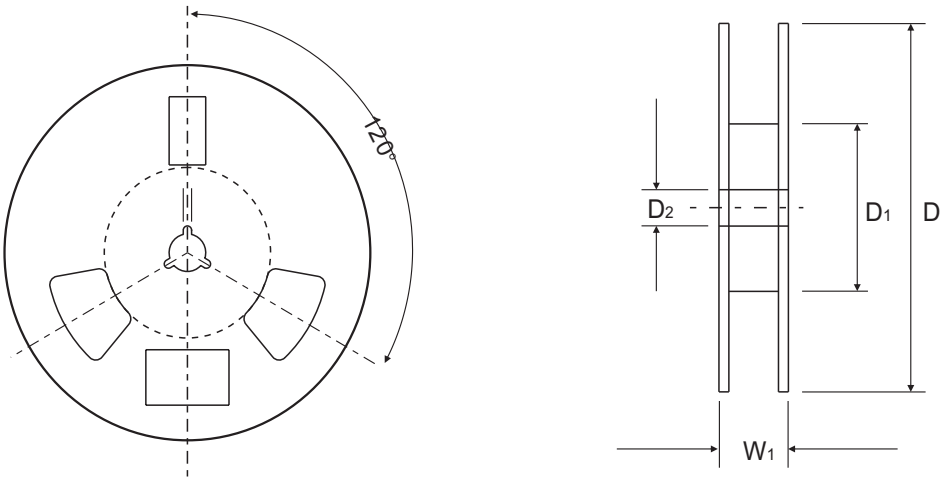
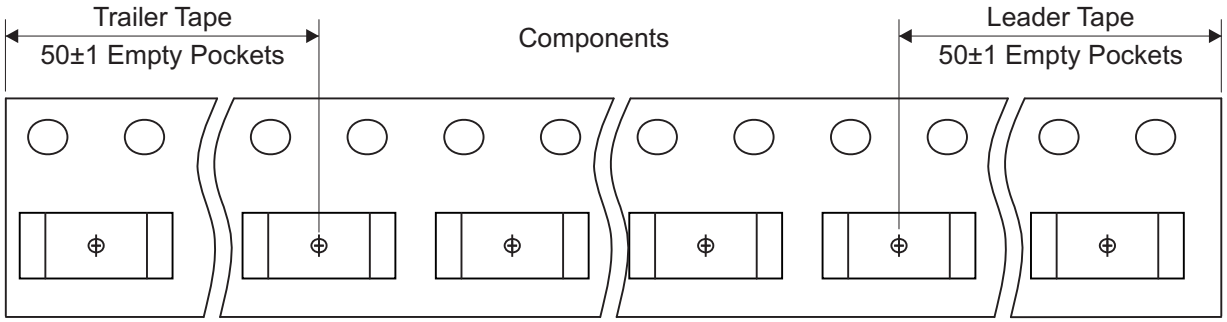
Reel Taping Specification





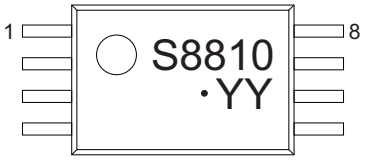


	SYMBOL	A	B	C	d	D	D_1	D_2
TSSOP8	(mm)	6.76 ± 0.10	3.30 ± 0.10	1.20 ± 0.10	1.50 ± 0.10	330 ± 1.00	100 ± 1.00	13.00 ± 1.00
	(inch)	0.266 ± 0.004	0.130 ± 0.004	0.047 ± 0.004	0.059 ± 0.004	13.00 ± 0.039	3.937 ± 0.039	0.512 ± 0.039

	SYMBOL	E	F	P	P_0	P_1	W	W_1
TSSOP8	(mm)	1.75 ± 0.10	5.50 ± 0.10	8.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	12.00 + 1.00 / - 0.10	17.60 ± 1.00
	(inch)	0.069 ± 0.004	0.217 ± 0.004	0.315 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.472 + 0.039 / - 0.004	0.693 ± 0.039

Marking Code

Part Number	Marking Code
CJS8810-HF	S8810

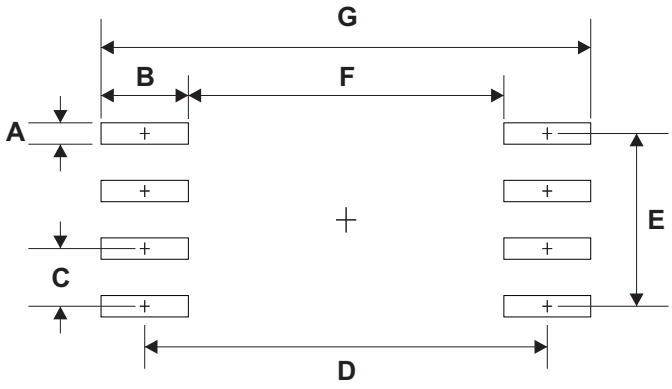


Solid dot " • " = Halogen Free

YY = Date Code

Suggested PAD Layout

SIZE	TSSOP8	
	(mm)	(inch)
A	0.32	0.013
B	1.60	0.063
C	0.65	0.026
D	5.60	0.220
E	1.95	0.077
F	4.00	0.157
G	7.20	0.283



Note:
1.General tolerance: ±0.05mm.
2.The pad layout is for reference purposes only.

Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
TSSOP8	3,000	13