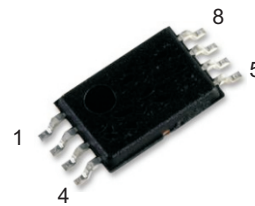


CJS8810-HF

N-Channel RoHS Device Halogen Free



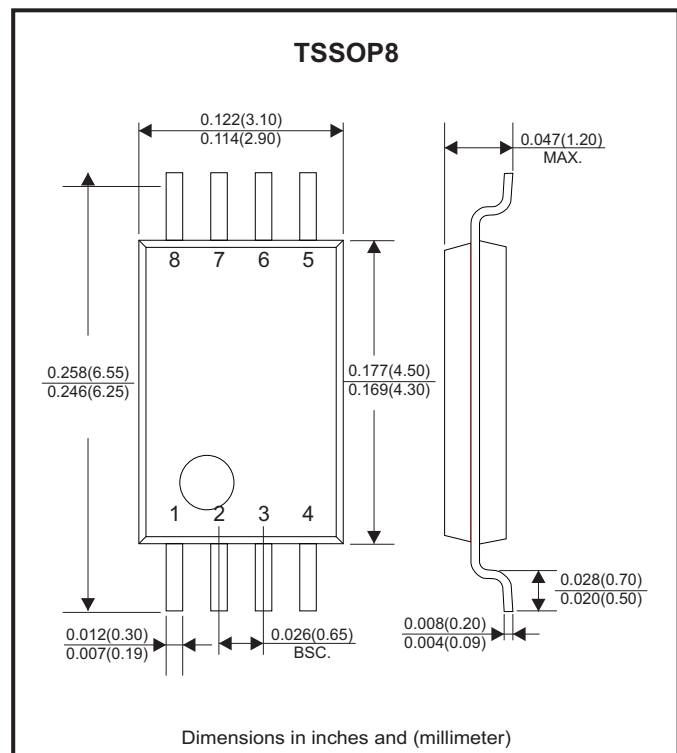
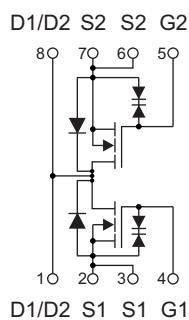
Features

- 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	

Maximum Ratings (at $T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DS}	20	V
Gate-source voltage	V_{GS}	± 12	V
Continuous drain current	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	$^{\circ}\text{C/W}$
Junction temperature range	T_J	150	$^{\circ}\text{C}$
Storage temperature range	T_{STG}	-55 to +150	$^{\circ}\text{C}$
Lead temperature for soldering purposes (1/8" from case for 10s)	T_L	260	$^{\circ}\text{C}$

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.

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REV: A

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 $\leq 300\mu s$, Duty cycle $\leq 0.5\%$.
2. Guaranteed by design, not subject to production testing.

RATING AND CHARACTERISTIC CURVES (CJS8810-HF)

Fig.1 - Output Characteristics

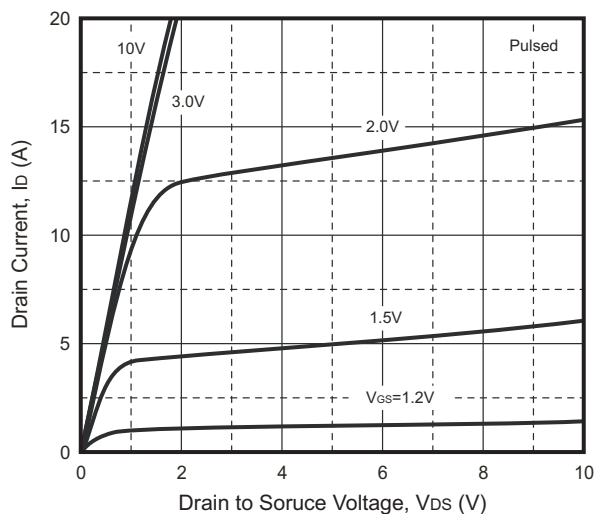


Fig.2 - Transfer Characteristics

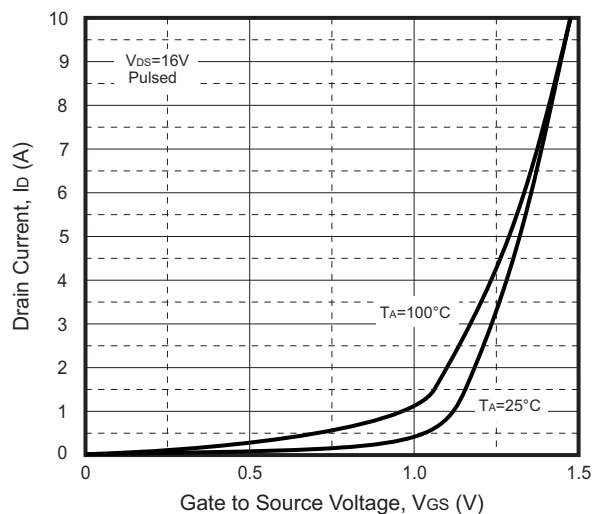


Fig.3 - $R_{DS(ON)}$ — I_D

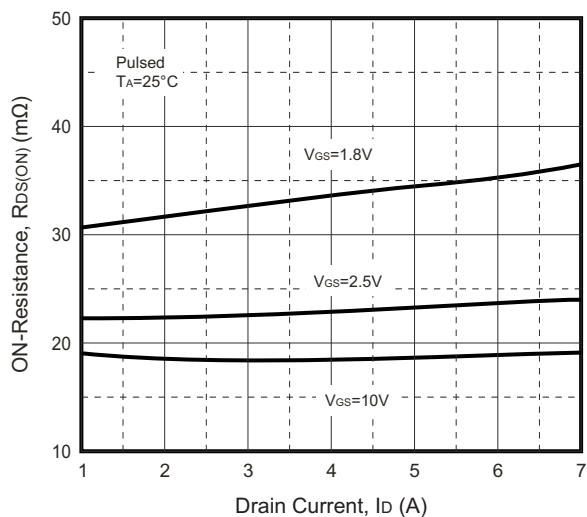


Fig.4 - $R_{DS(ON)}$ — V_{GS}

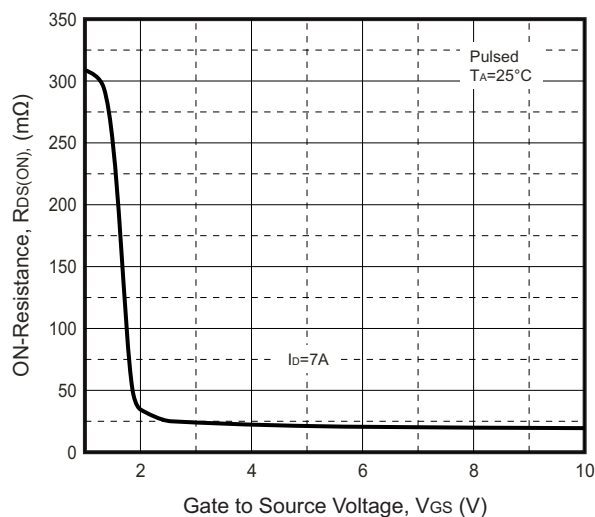


Fig.5 - I_S — V_{SD}

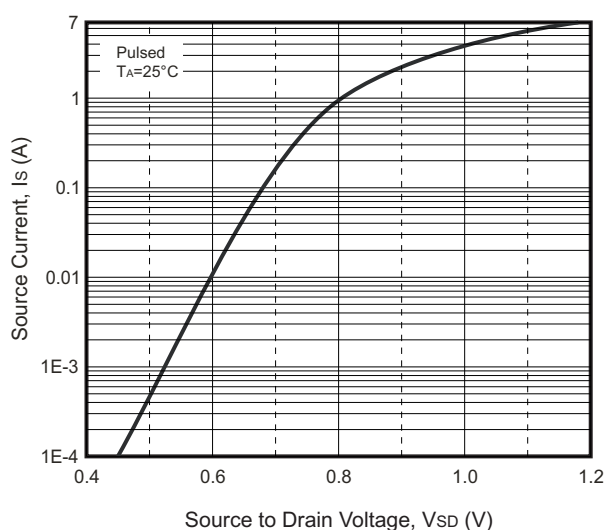
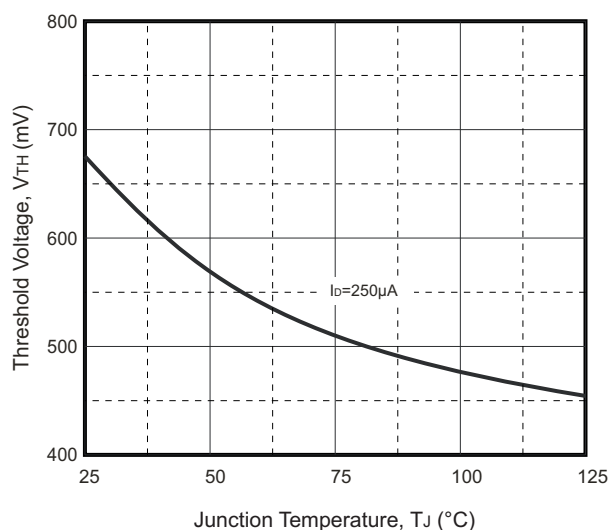


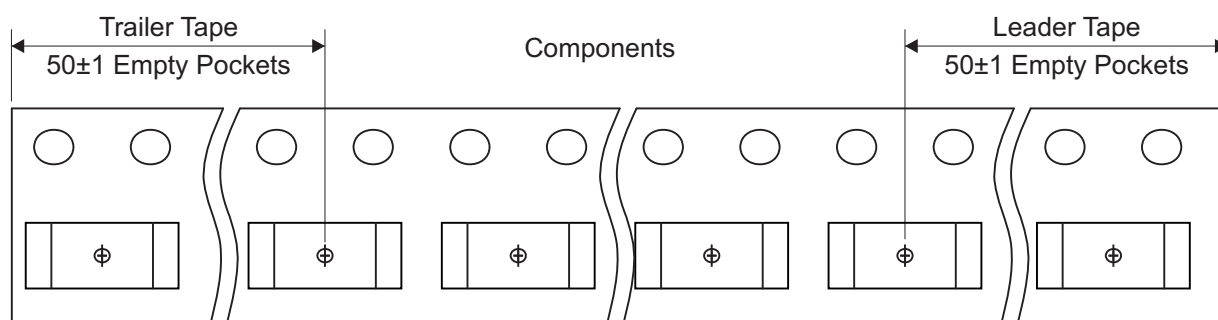
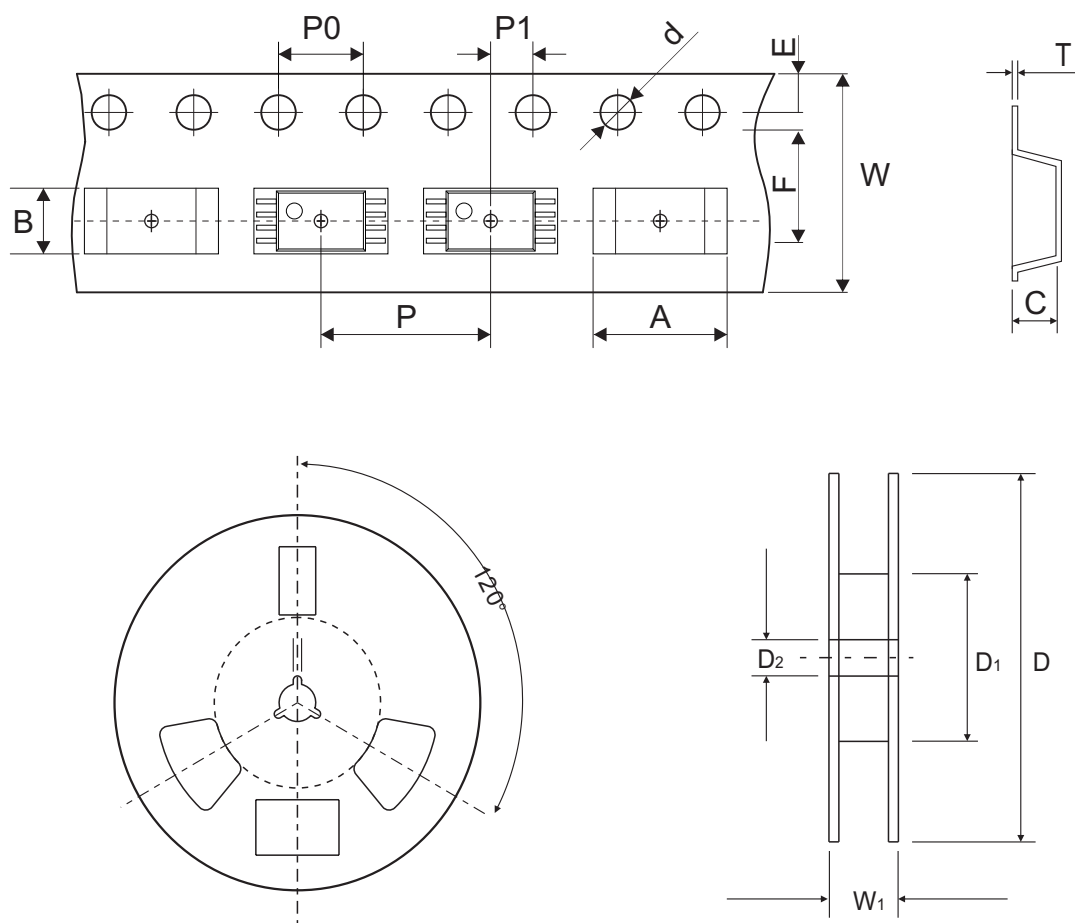
Fig.6 - Threshold Voltage



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REV: A

Reel Taping Specification



TSSOP8	SYMBOL	A	B	C	d	D	D1	D2
	(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

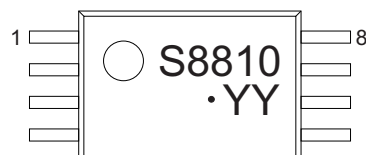
TSSOP8	SYMBOL	E	F	P	P0	P1	W	W1
	(mm)	1.75 ± 0.10	5.50 ± 0.10	8.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	$12.00 \pm 1.00 / - 0.10$	17.60 ± 1.00
	(inch)	0.069 ± 0.004	0.217 ± 0.004	0.315 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	$0.472 \pm 0.039 / - 0.004$	0.693 ± 0.039

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REV: A

Marking Code

Part Number	Marking Code
CJS8810-HF	S8810

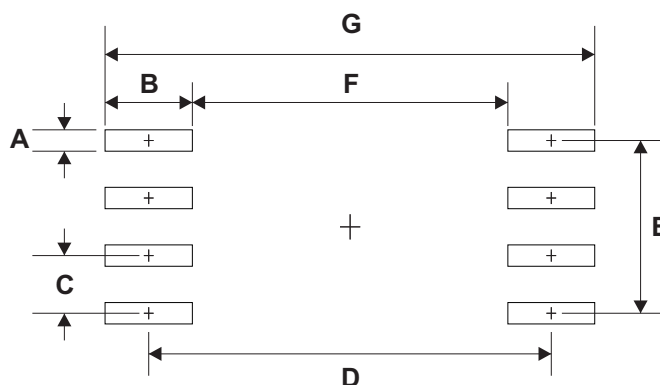


Solid dot “.” = Halogen Free

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: $\pm 0.05\text{mm}$.

2.The pad layout is for reference purposes only.

Standard Packaging

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