

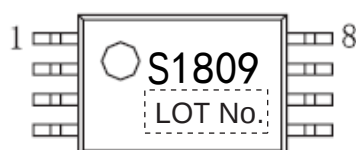
Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
18V	9.0mΩ@4.5V	8A
	9.5mΩ@4.0V	
	10mΩ@3.8V	
	11mΩ@3.1V	
	12mΩ@2.5V	

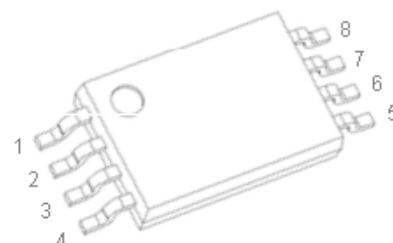
DESCRIPTION

The GP1809S uses advanced trench technology to provide excellent $R_{DS(ON)}$ and low gate charge. This device is suitable for use as a uni-directional or bi-directional load switch, facilitated by its common-drain configuration.

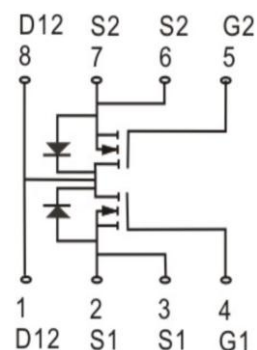
MARKING:



TSSOP8



Schematic diagram



ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	18	V
Gate-Source Voltage	V_{GS}	± 10	V
Continuous Drain Current	I_D	8	A
Pulsed Drain Current	I_{DM}	32	A
Power Dissipation	P_D	2	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	62.5	$^{\circ}\text{C/W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$
Lead Temperature for Soldering Purposes(1/8" from case for 10s)	T_L	260	$^{\circ}\text{C}$

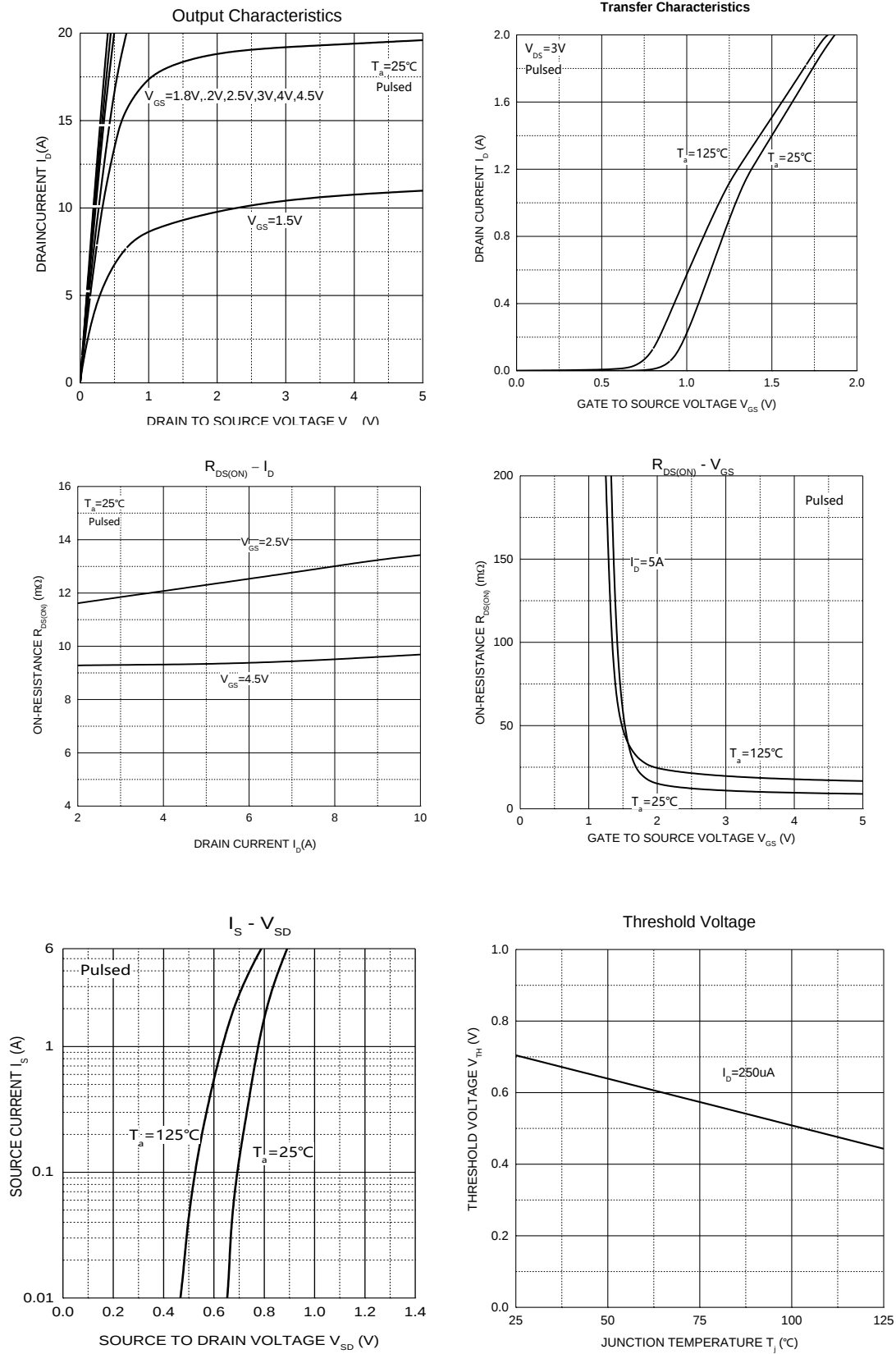
MOSFET ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise noted)

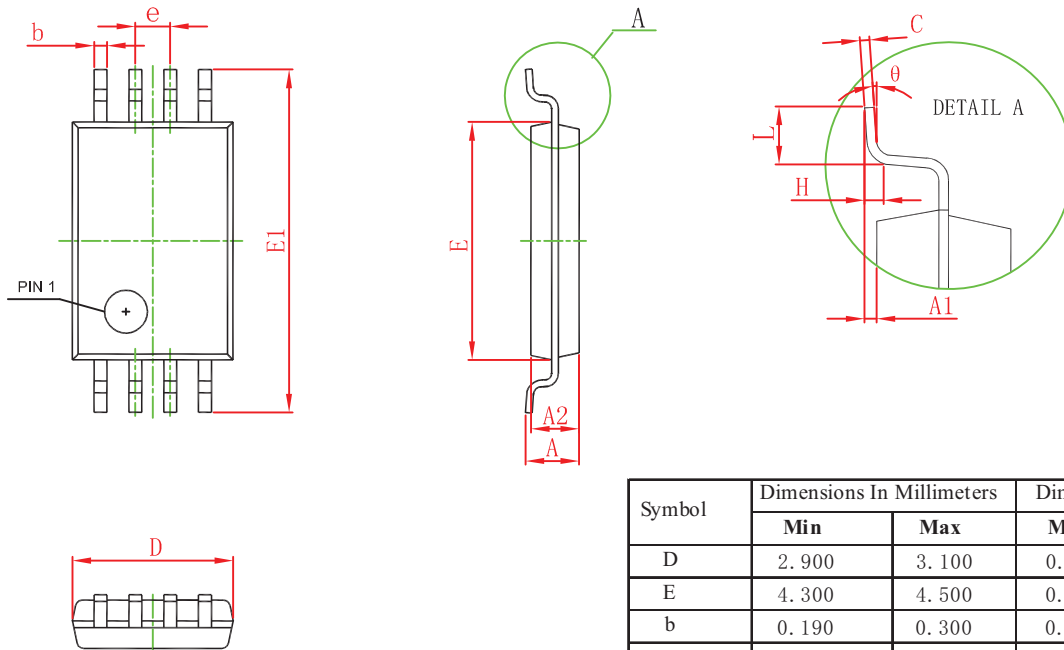
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =250μA	18			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =16V,V _{GS} = 0V			1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±10V, V _{DS} = 0V			±100	nA
Gate threshold voltage ⁽¹⁾	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.4		1.0	V
Drain-source on-resistance ⁽¹⁾	R _{DS(on)}	V _{GS} =4.5V, I _D =3A		9.0	12.0	mΩ
		V _{GS} =4.0V, I _D =3A		9.5	12.5	
		V _{GS} =3.8V, I _D =3A		10	13.0	
		V _{GS} =3.1V, I _D =3A		11	14.5	
		V _{GS} =2.5V, I _D =3A		12	15.0	
Forward tranconductance ⁽¹⁾	g _{FS}	V _{DS} =5V, I _D =7A	6			S
Diode Forward voltage ⁽¹⁾	V _{DS}	V _{GS} =0V, I _S =3A			1.2	V
Dynamic characteristics ⁽²⁾						
Input Capacitance	C _{iss}	V _{DS} =10V,V _{GS} =0V,f =1MHz		680		pF
Output Capacitance	C _{oss}			132		
Reverse Transfer Capacitance	C _{rss}			121		
Total gate charge	Q _g	V _{DS} =10V,V _{GS} =4.5V,I _D =8A		16		nC
Gate-source charge	Q _{gs}			1.4		
Gate-drain charge	Q _{gd}			4.5		
Switching Characteristics ⁽²⁾						
Turn-on delay time	t _{d(on)}	V _{GEN} =5V,V _{DD} =10V, I _D =4A,R _G =1Ω, R _L =2.2Ω			10	ns
Turn-on rise time	t _r				20	
Turn-off delay time	t _{d(off)}				32	
Turn-off fall time	t _f				12	
Drain-Source Diode Charac teristics						
Diode Forward Current	I _S				8.0	A

Notes :

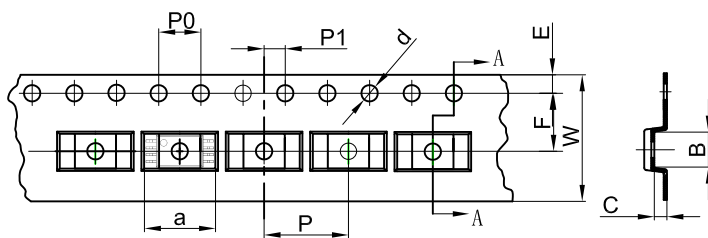
1. Pulse Test : Pulse width≤300μs, duty cycle≤0.5%.
2. Guaranteed by design, not subject to production testing.

Typical Electrical and Thermal Characteristics

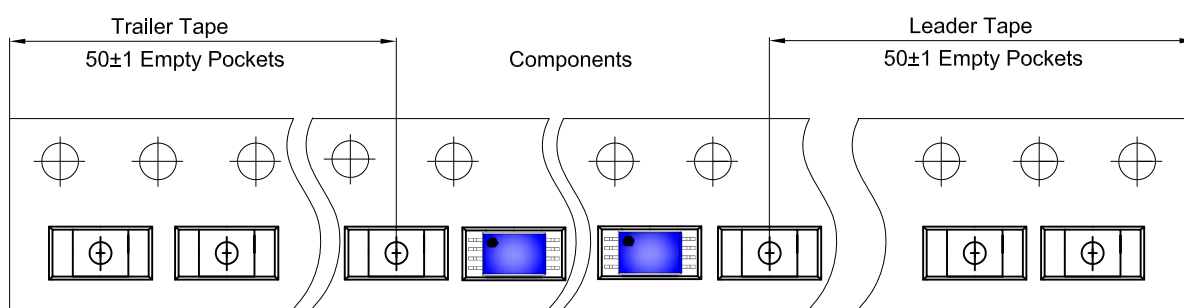
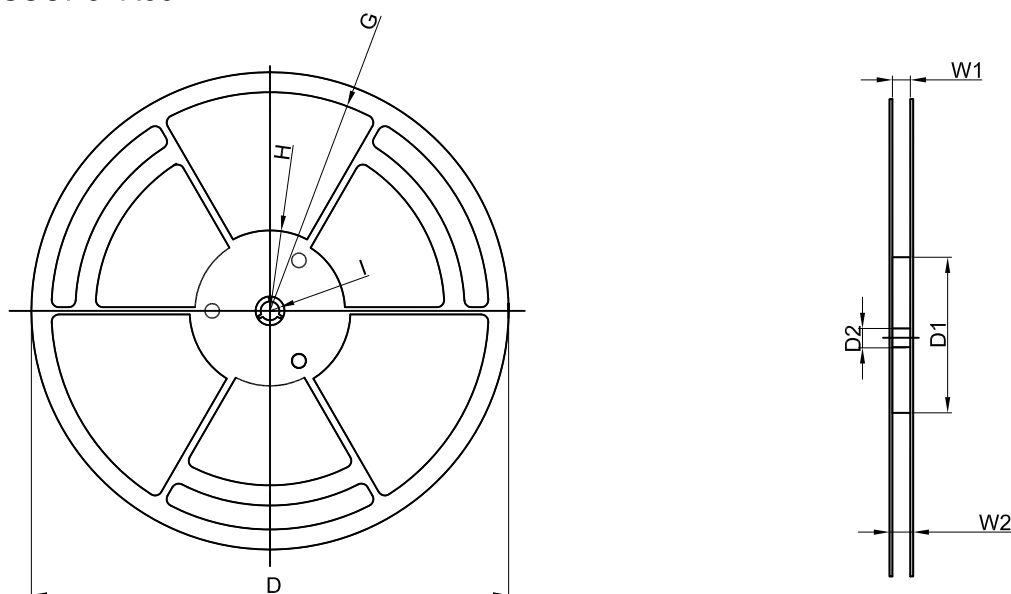


TSSOP8 Package Information


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 Tape and Reel
TSSOP8 Embossed Carrier Tape


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	3,000 pcs	336×336×48	24,000 pcs	445×355×365	