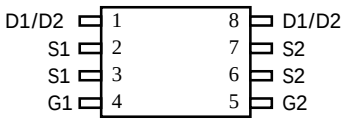
Dual N-Channel MOSFET

DESCRIPTION

The PT8810 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.

TSSOP-8



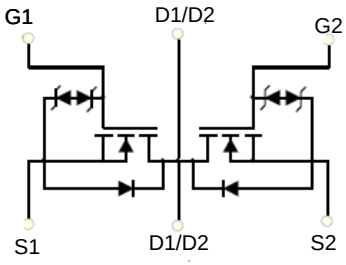
Features

V_{DS} (V) = 20V

I_D = 7A

$R_{DS(ON)}$ < 22mΩ (V_{GS} = 4.5V)

$R_{DS(ON)}$ < 26mΩ (V_{GS} = 2.5V)



Order Information

Product	Package	Marking	Packing
PT8810	TSSOP-8	8810	5000PCS/Reel

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	±10	V
Continuous Drain Current	I_D	7	A
Pulsed Drain Current(note1)	I_{DM}*	30	A
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	125	℃/W
Junction Temperature	T_j	150	℃
Storage Temperature	T_{stg}	-55~+150	℃
Lead Temperature for Soldering Purposes(1/8'' from case for 10 s)	T_L	260	℃

*Repetitive rating：Pluse width limited by junction temperature.

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T_a=25℃ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
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_{GS} =±10V, V_{DS} = 0V			±10	μA
Gate threshold voltage (note 1)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	0.5		1.0	V
Drain-source on-resistance (note 1)	$R_{DS(on)}$	V_{GS} =4.5V, I_D =6 A		15	22	mΩ
		V_{GS} =2.5V, I_D =5.5A		18	26	mΩ
Forward tranconductance (note 1)	g_{FS}	V_{DS} =5V, I_D =7A		9		S
Diode forward voltage(note 1)	V_{SD}	I_S=1.5A, $_{GS}$ = 0V			1.2	V
DYNAMIC PARAMETERS (note 2)						
Input Capacitance	C_{iss}	V_{DS} =10V,V_{GS} =0V,f =1MHz		1150		pF
Output Capacitance	C_{oss}			185		pF
Reverse Transfer Capacitance	C_{rss}			145		pF
Total gate charge	Q_g	V_{DS} =10V,V_{GS} =4.5V,I_D =6A		15		nC
Gate-source charge	Q_{gs}			0.8		nC
Gate-drain charge	Q_{gd}			3.2		nC
SWITCHING PARAMETERS(note 2)						
Turn-on delay time	$t_{d(on)}$	V_{GS}=5V,V_{DD}=10V, R_L=1.5Ω,R_{GEN}=3Ω		6		ns
Turn-on rise time	t_r			13		ns
Turn-off delay time	$t_{d(off)}$			52		ns
Turn-off fall time	t_f			16		ns

Notes :

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

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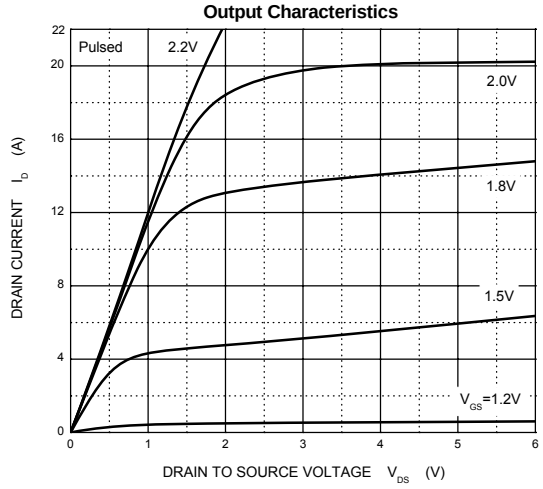
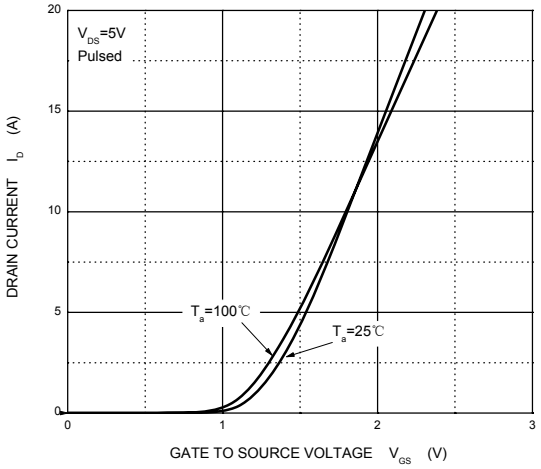
Typical Characteristics

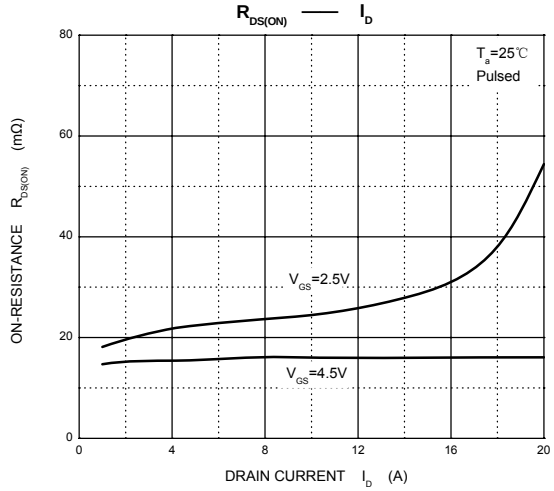
Output Characteristics



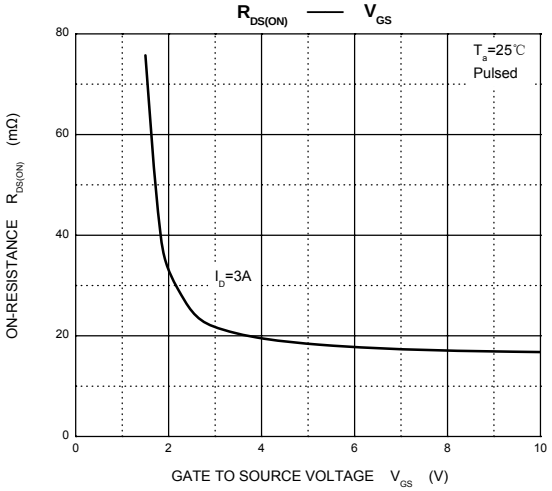
Transfer Characteristics



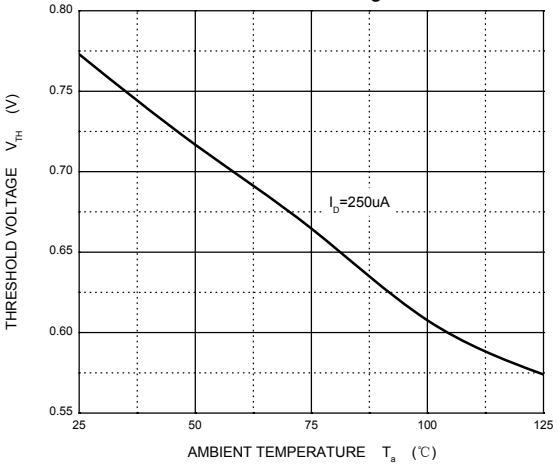
$R_{DS(ON)}$ —— I_D



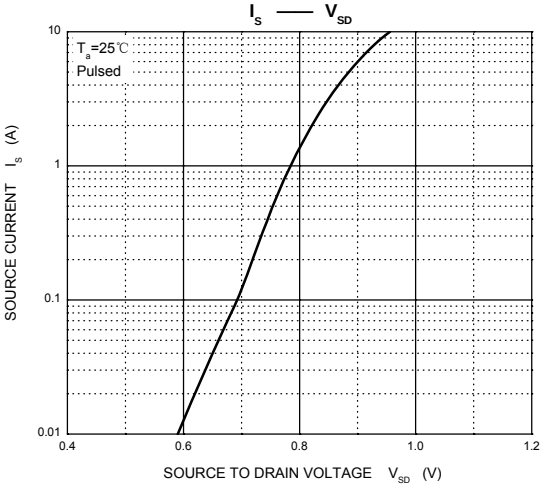
$R_{DS(ON)}$ —— V_{GS}



Threshold Voltage



I_S —— V_{SD}



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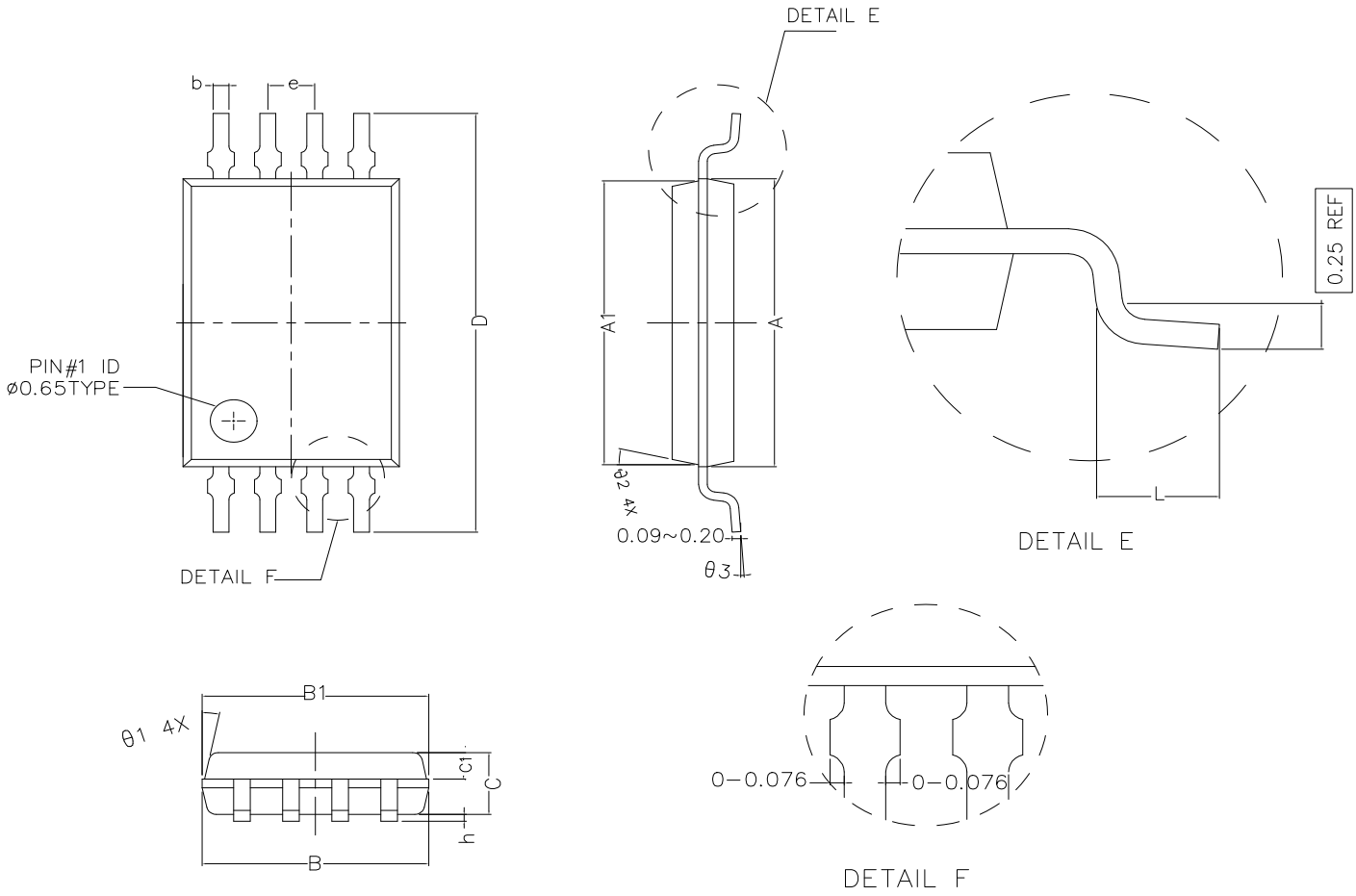
TSSOP-8 Package Information



COMMON DIMENSIONS (UNITS OF MEASURE IS mm)			
	MIN	NORMAL	MAX
A	4.300	4.400	4.500
A1	4.240	4.340	4.440
B	2.900	3.000	3.100
B1	2.840	2.940	3.040
C	0.850	0.900	0.950
C1	0.337	0.387	0.437
D	6.250	6.400	6.550
L	0.450	0.600	0.750
b	0.170	0.220	0.300
h	0.050	0.100	0.150
e	0.650TYPE		
θ_1	12° TYPE		
θ_2	12° TYPE		
θ_3	0° ~ 7°		