

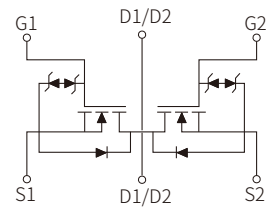
DESCRIPTION

The SNM8810ET 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.



FEATURES

- | $V_{DS} = 20V, I_D = 7A$
- | $R_{DS(ON)} < 16m\Omega$ ($V_{GS} = 4.5V$)
- | $R_{DS(ON)} < 22m\Omega$ ($V_{GS} = 2.5V$)



Schematic Symbol

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

ABSOLUTE MAXIMUM RATINGS($T_a=25^{\circ}C$)

Parameter	Symbol	Value	Unit
Drain-Source Breakdown Voltage	V_{DSS}	20	V
Gate-Source Voltage	V_{GSS}	± 10	V
Pulsed Drain Current(note1)	I_{DM}^*	30	A
Continuous Drain current	I_D	7	A
Thermal Resistance- Junction to Ambient	$R_{\theta JA}$	125	$^{\circ}C/W$
Maximum Junction Temperature	T_J	-55 ~ +150	$^{\circ}C$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^{\circ}C$

ELECTRICAL CHARACTERISTICS (Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Electrical Characteristics						
Drain-source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	20			V
Gate Leakage Current	I_{GSS}	$V_{GS}=\pm 10V, V_{DS}=0V$			± 10	μA
Drain Leakage Current	I_{DSS}	$V_{DS}=16V, V_{GS}=0V$			1	μA
Gate Threshold Voltage ^(Note1)	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.5		1.0	V
Drain-Source On-State Resistance ^(Note1)	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=6A$		13	16	m Ω
		$V_{GS}=2.5V, I_D=5.5A$		16	22	m Ω
Forward tranconductance ^(Note1)	gFS	$V_{DS}=5V, I_D=7A$		9		S
Dynamic Electrical Characteristics ^(Note2)						
Total Gate Charge	Q_g	$V_{GS}=4.5V, V_{DS}=10V, I_D=6A$		15		nC
Gate-Source Charge	Q_{gs}			0.8		nC
Gate-Drain Charge	Q_{gd}			3.2		nC
Input Capacitance	C_{iss}	$V_{GS}=0V, V_{DS}=10V, f=1MHz$		1150		pF
Output Capacitance	C_{oss}			185		pF
Reverse Transfer Capacitance	C_{rss}			145		pF
Switching Characteristics ^(Note2)						
Turn-on Delay Time	$t_{d(ON)}$	$V_{DD}=10V, V_{GS}=5V, R_{GEN}=3\Omega, R_L=1.5\Omega$		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
Source- Drain Diode Characteristics						
Forward on voltage ^(Note1)	V_{SD}	$I_s=1.5A, V_{GS}=0V$			1.2	V

Notes :

1. Pulse Test : Pulse width $\leq 300\mu s$, duty cycle $\leq 0.5\%$.
2. Guaranteed by design, not subject to production testing.

PARAMETER CHARACTERISTIC CURVE

Figure1: Output Characteristics

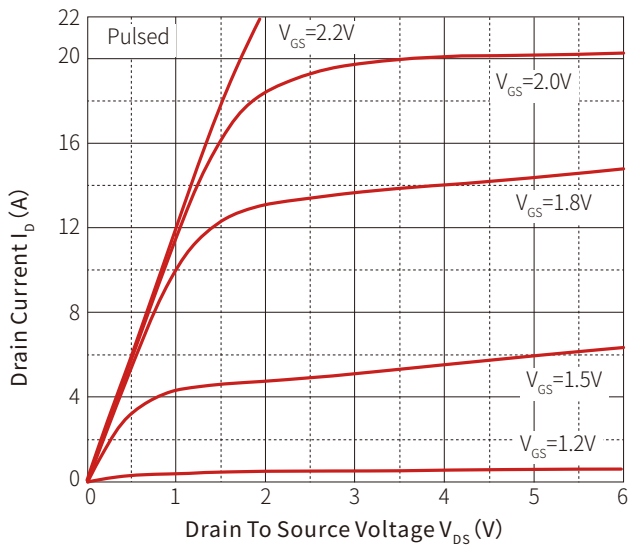


Figure2: Transfer Characteristics

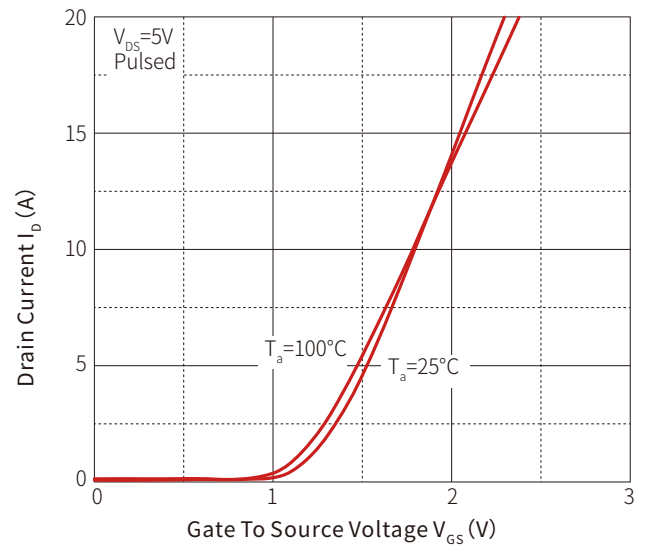


Figure3: $R_{DS(ON)} - I_D$

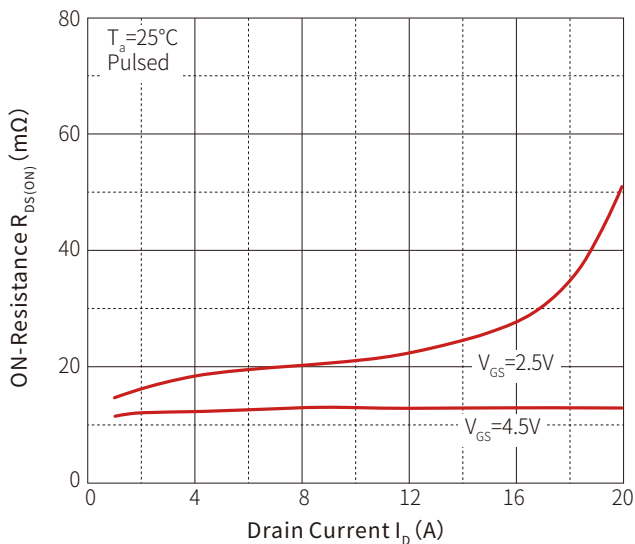


Figure4: $R_{DS(ON)} - V_{GS}$

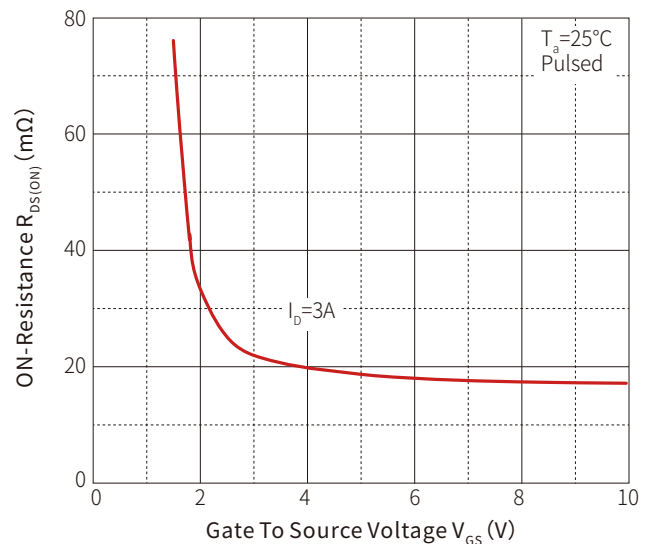
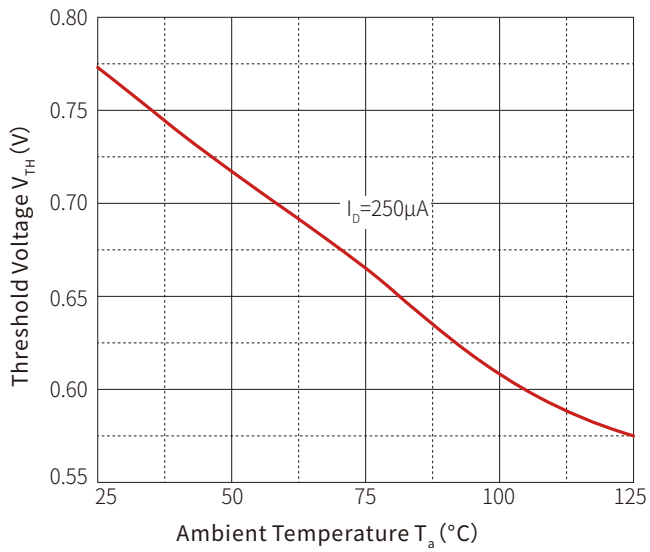
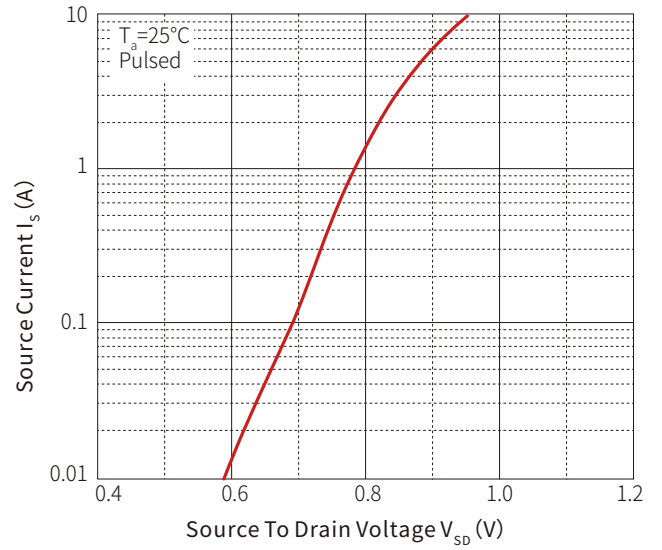
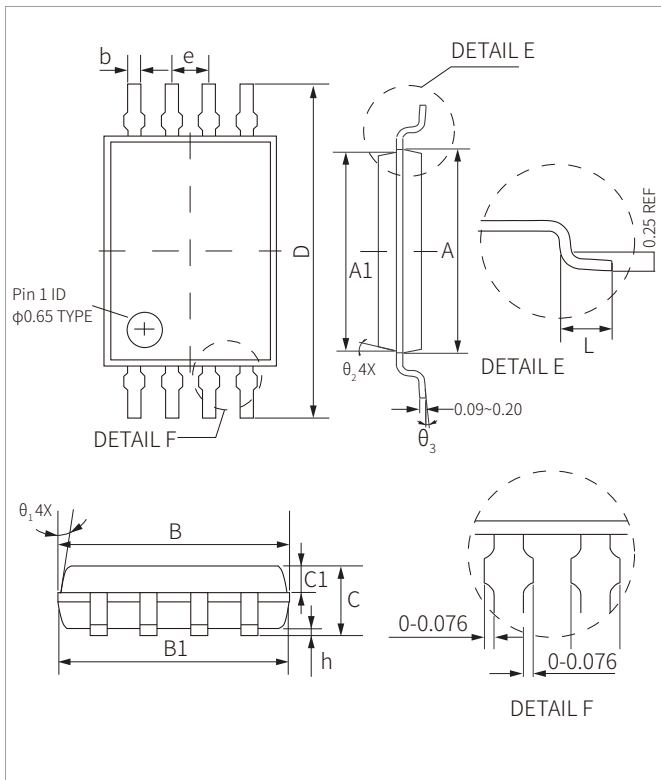


Figure5: Threshold Voltage

Figure6: I_s — V_{SD}


TSSOP-8 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.30	4.50	0.169	0.177
A1	4.24	4.44	0.167	0.175
B	2.90	3.10	0.114	0.122
B1	2.84	3.04	0.112	0.120
C	0.85	0.95	0.034	0.037
C1	0.33	0.44	0.013	0.017
D	6.25	6.55	0.246	0.258
L	0.45	0.75	0.018	0.030
b	0.17	0.30	0.007	0.012
h	0.05	0.15	0.002	0.006
e	0.650 TYP		0.026 TYP	
θ_1	12° TYP		12° TYP	
θ_2	12° TYP		12° TYP	
θ_3	0° ~7°		0° ~7°	

ORDERING INFORMATION

Part Number	Component Package	Marking	QTY/Reel	Reel Size
SNM8810ET	TSSOP-8	.8810 XXXXX	5000PCS	13"

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