

Product Summary

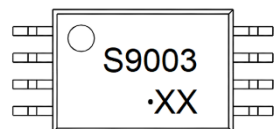
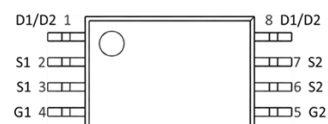
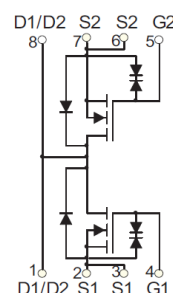
$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
18V	7.3m Ω @4.5V	12A
	9.7m Ω @2.5V	

Feature

- Trench Technology Power MOSFET
- Low $R_{DS(ON)}$
- Low Gate Charge
- ESD Protected

Application

- Load Switch
- DC/DC Converter

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}	± 12	V
Continuous Drain Current ^{1,5}	I_D	12	A
Pulsed Drain Current ²	I_{DM}	48	A
Power Dissipation ^{4,5}	P_D	2	W
Thermal Resistance from Junction to Ambient ⁵	$R_{\theta JA}$	63	$^\circ\text{C/W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^\circ\text{C}$

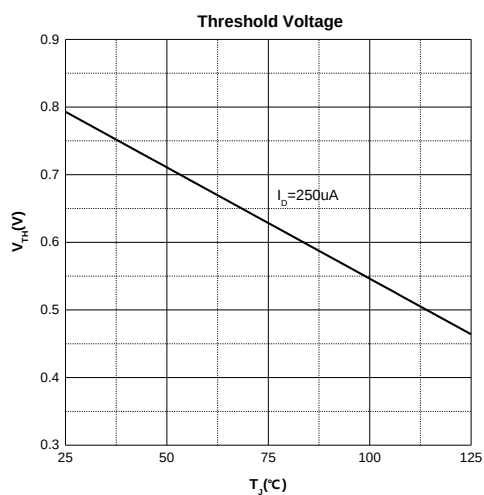
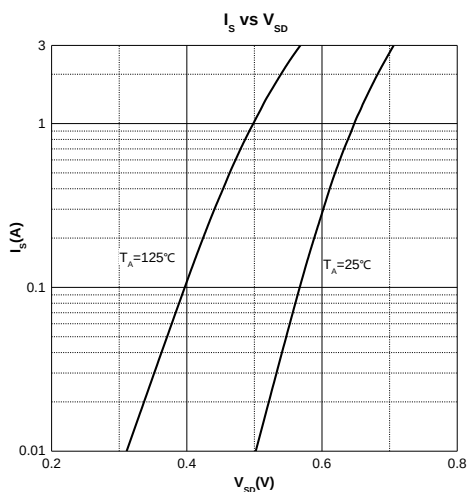
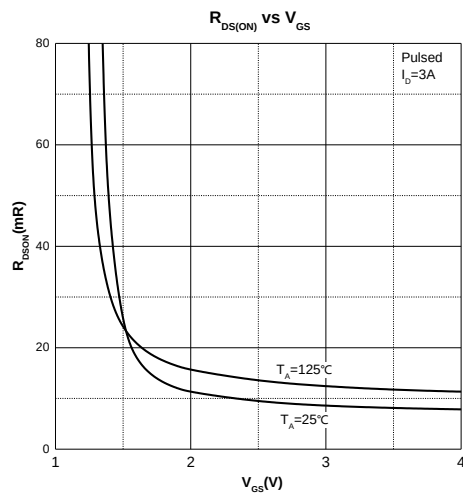
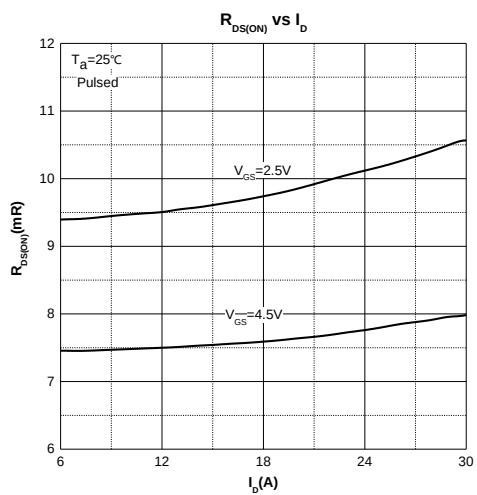
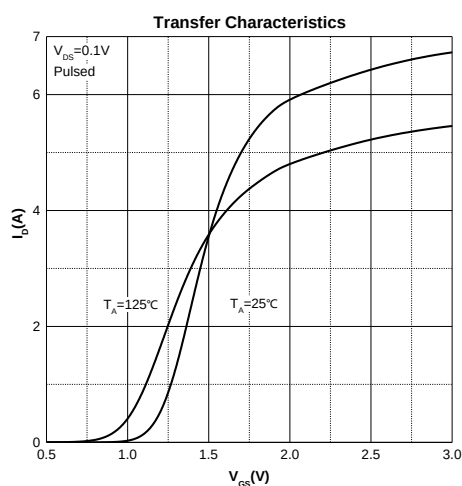
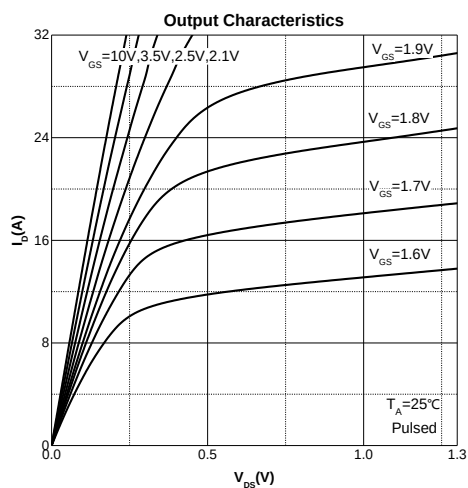
MOSFET ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$ unless otherwise noted)

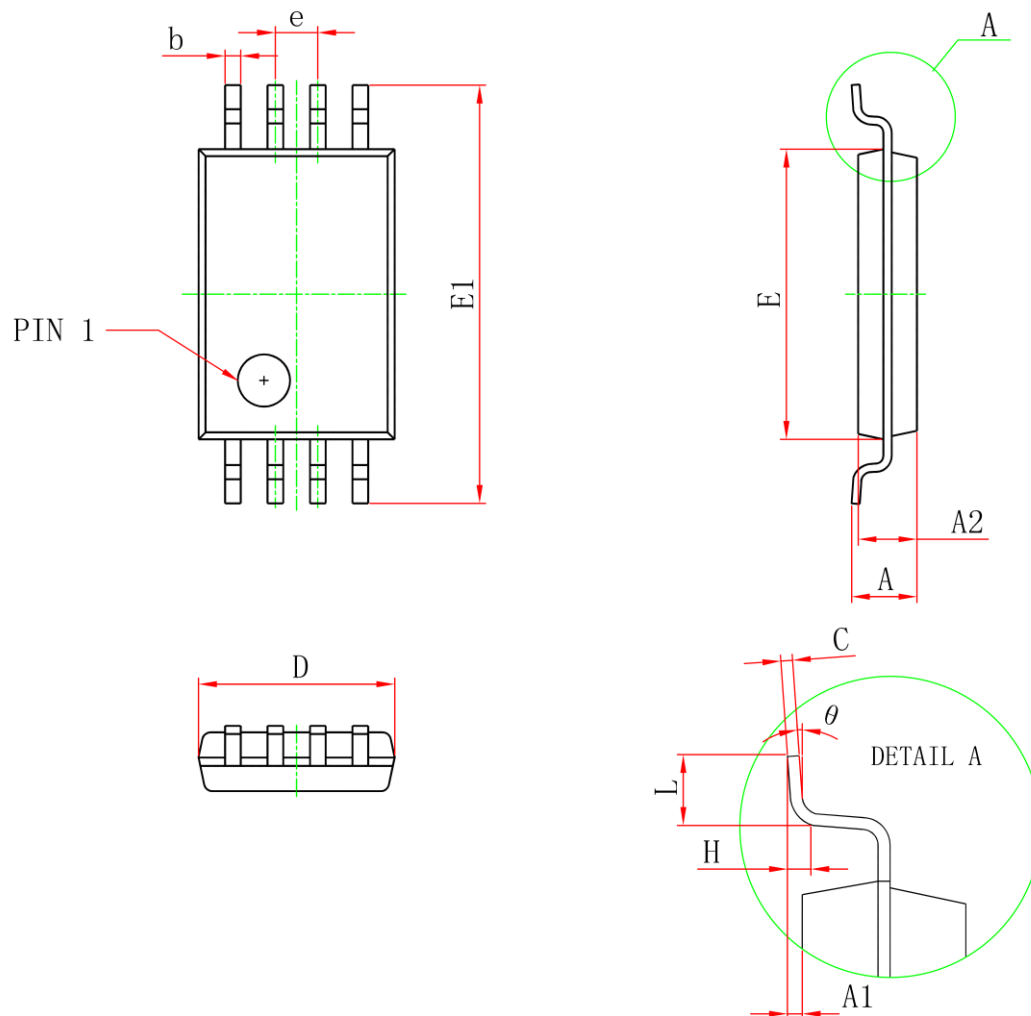
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Off Characteristics						
Drain - Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	18			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 16V, V_{GS} = 0V$			1	μA
Gate - Body Leakage Current	I_{GSS}	$V_{GS} = \pm 16V, V_{DS} = 0V$			± 2	μA
On Characteristics ³						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.4	0.8	1.1	V
Drain-source On-resistance	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 3A$		7.3	9	m Ω
		$V_{GS} = 2.5V, I_D = 3A$		9.7	13	
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS} = 30V, V_{GS} = 0V, f = 0.1MHz$		1514		pF
Output Capacitance	C_{oss}			216		
Reverse Transfer Capacitance	C_{rss}			85		
Gate Resistance	R_g	$V_{DS} = 0V, V_{GS} = 0V, f = 0.1MHz$		2838		Ω
Switching Characteristics						
Total Gate Charge	Q_g	$V_{DS} = 9V, V_{GS} = 4.5V, I_D = 3A$		14.5		nC
Gate-source Charge	Q_{gs}			4.4		
Gate-drain Charge	Q_{gd}			0.18		
Turn-on Delay Time	$t_{d(on)}$	$V_{DD} = 10V, V_{GS} = 4.5V,$ $R_L = 1.35\Omega, R_G = 3\Omega$		2.5		ns
Turn-on Rise Time	t_r			6		
Turn-off Delay Ttime	$t_{d(off)}$			45		
Turn-off Fall Time	t_f			85		
Source - Drain Diode Characteristics						
Diode Forward Voltage ³	V_{SD}	$V_{GS} = 0V, I_S = 3A$			1.2	V

Notes :

- 1.The maximum current rating is limited by package.
- 2.Pulse Test : Pulse Width $\leq 10\mu s$, duty cycle $\leq 1\%$.
- 3.Pulse Test : Pulse Width $\leq 300\mu s$, duty cycle $\leq 2\%$.
- 4.The power dissipation P_D is limited by $T_{J(MAX)} = 150^\circ\text{C}$.
- 5.Device mounted on $1in^2$ FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25^\circ\text{C}$.

Typical Characteristics



TSSOP8 Package Information


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
D	2.800	3.100	0.110	0.122
E	4.300	4.500	0.169	0.177
b	0.200	0.300	0.008	0.012
c	0.090	0.200	0.004	0.008
E1	6.200	6.600	0.244	0.260
A	1.200MAX		0.047MAX	
A2	0.800	1.050	0.031	0.041
A1	0.050	0.150	0.002	0.006
e	0.650BSC		0.026TYP	
L	0.450	0.750	0.018	0.030
H	0.250TYP		0.010TYP	
θ	1°	7°	1°	7°