

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-60V	75mΩ@-10V	-3A
	90mΩ@-4.5V	

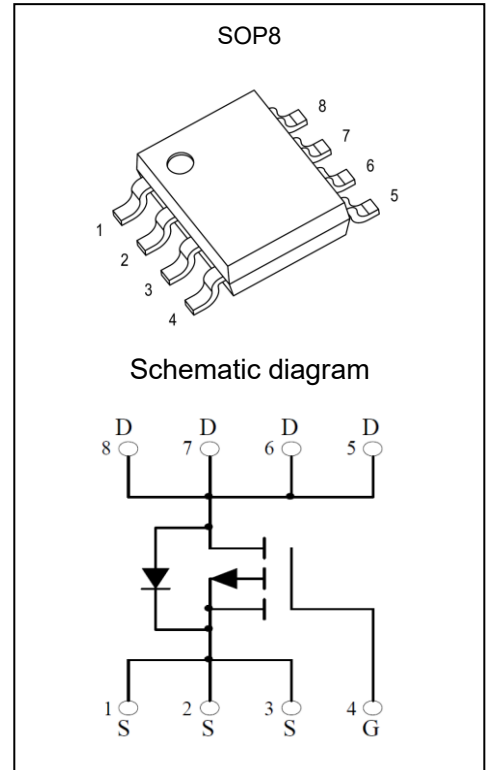
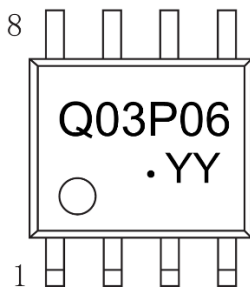
Feature

- TrenchFET Power MOSFET
- Excellent $R_{DS(on)}$ and Low Gate Charge

Application

- Power switching application
- Hard switched and high frequency circuits
- DC-DC Converter

MARKING:



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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-60	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	-3	A
Plused Drain Current	I_{DM}	-12	A
Power Dissipation	P_D	1.4	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	89	$^{\circ}\text{C/W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$

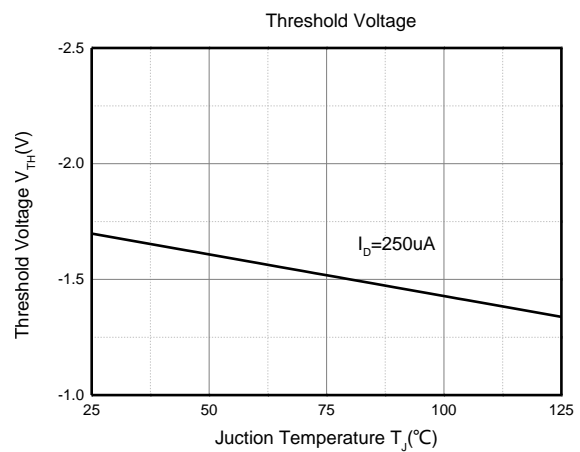
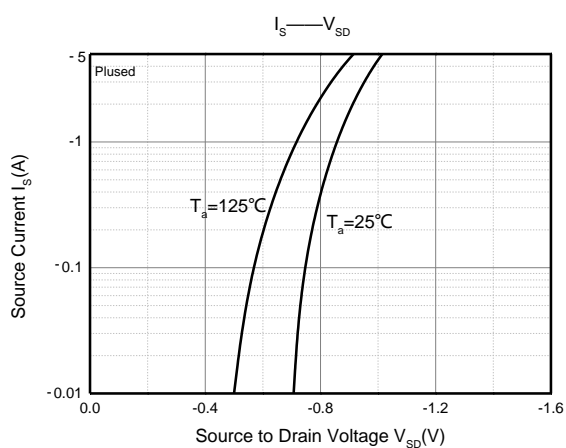
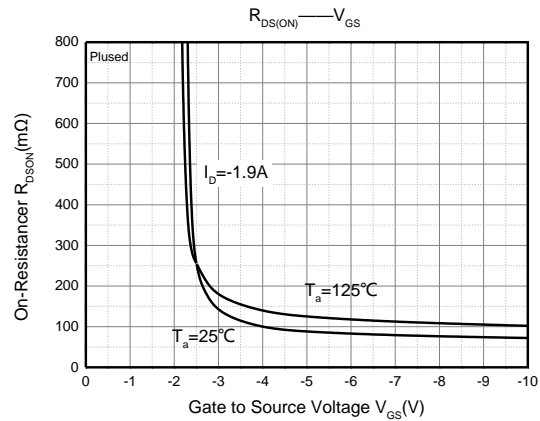
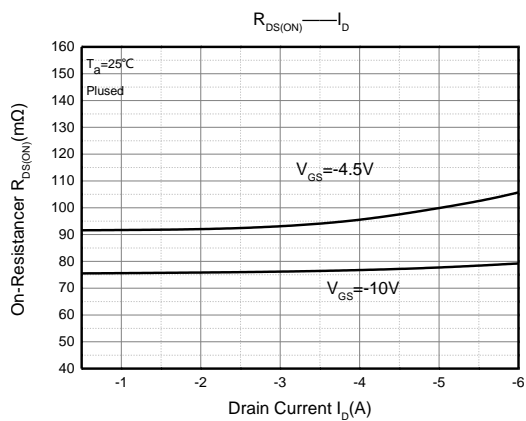
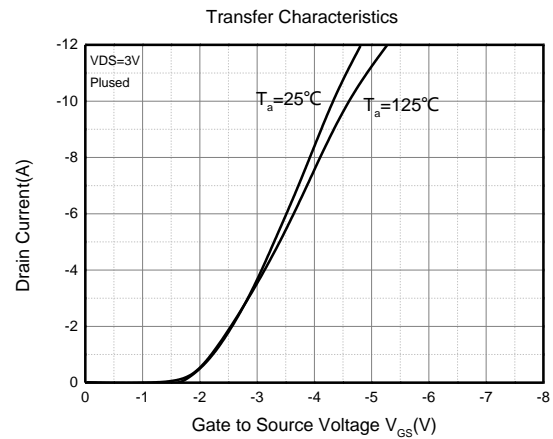
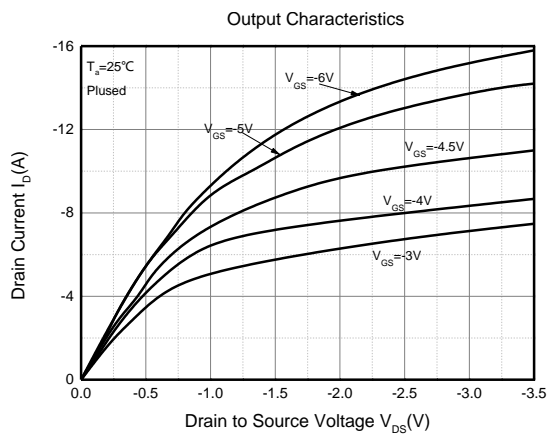
MOSFET ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Off characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	-60			V
Zero gate voltage drain current	I _{DSS}	V _{DS} = -48V, V _{GS} = 0V			-1	μA
Gate-body leakage current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±100	nA
On characteristics⁽¹⁾						
Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	-1.0	-1.7	-2.5	V
Drain-source on-resistance	R _{DS(on)}	V _{GS} = -10V, I _D = -3A		75	98	mΩ
		V _{GS} = -4.5V, I _D = -1.6A		90	120	
Forward transconductance	g _{FS}	V _{DS} = -15V, I _D = -3A	3			S
Switching characteristics⁽²⁾						
Input Capacitance	C _{iss}	V _{DS} = -30V, V _{GS} = 0V, F = 1.0MHz		1255		pF
Output Capacitance	C _{oss}			260		
Reverse Transfer Capacitance	C _{rss}			90		
Total gate charge	Q _g	V _{DS} = -30V, V _{GS} = -10V, I _D = -3A		34		nC
Gate-source charge	Q _{gs}			6		
Gate-drain charge	Q _{gd}			15		
Turn-on delay time	t _{d(on)}	V _{DD} = -30V, I _D = -1A, V _{GS} = -10V, R _G = 6Ω, R _L = 15Ω		16		ns
Turn-on rise time	t _r			19		
Turn-off delay time	t _{d(off)}			60		
Turn-off fall time	t _f			30		
Drain-Source Diode characteristics						
Diode Forward voltage ⁽¹⁾	V _{SD}	V _{GS} = 0V, I _S = -3A			1.2	V
Continues drain-source current	I _S				3	A
Pulsed drain-source current	I _{SM}				12	A

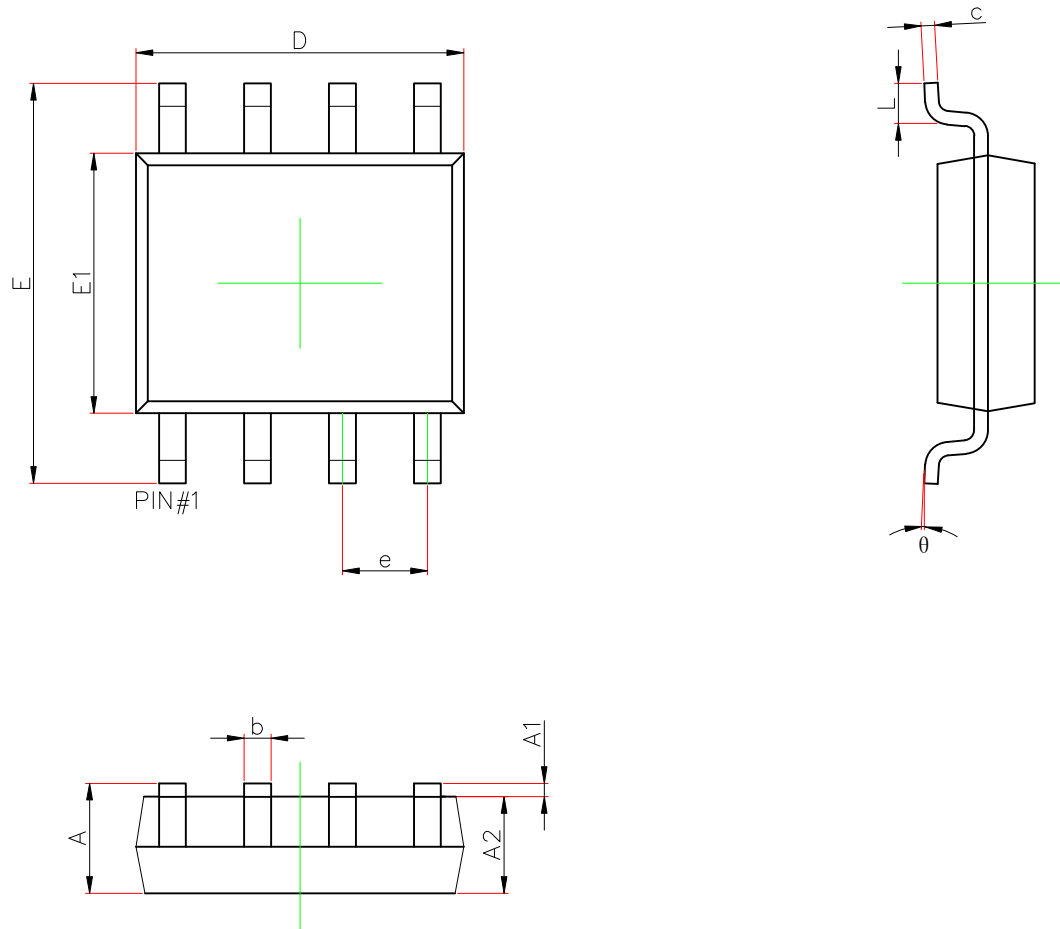
Notes:

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

Typical Electrical and Thermal Characteristics



SOP8 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.156	0.250	0.006	0.010
D	4.700	5.100	0.185	0.201
e	1.270(BSC)		0.050(BSC)	
E	5.800	6.200	0.228	0.244
E1	3.700	4.100	0.146	0.161
L	0.400	1.270	0.016	0.05
θ	0°	8°	0°	8°