

**Product Summary**

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	$I_D$
60V	75mΩ@10V	4A
	86mΩ@4.5V	

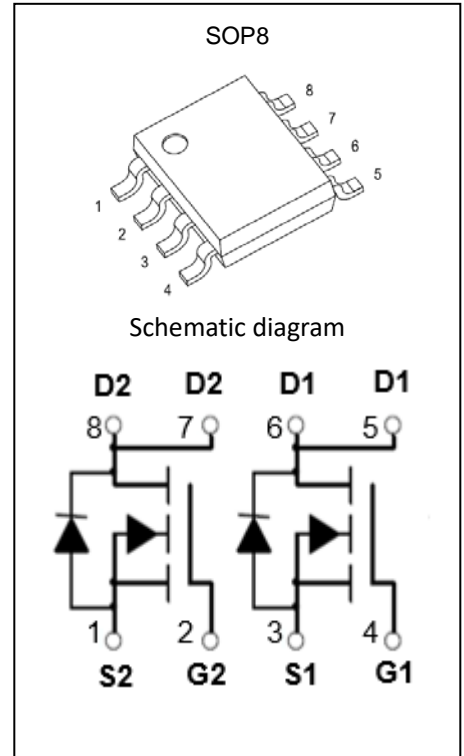
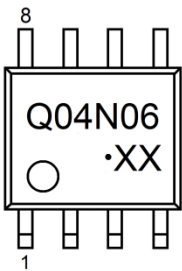
**Feature**

- TrenchFET Power MOSFET
- Excellent  $R_{DS(on)}$
- Low Gate Charge
- High Power and Current Handling Capability
- Surface Mount Package

**Application**

- Battery Protection
- Load Switch
- Power Management

**MARKING:**



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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	60	V
Gate-Source Voltage	$V_{GS}$	±20	V
Continuous Drain Current	$I_D$	4	A
Pulsed Drain Current <sup>(1)</sup>	$I_{DM}$	16	A
Power Dissipation	$P_D$	2	W
Thermal Resistance from Junction to Ambient <sup>(2)</sup>	$R_{\theta JA}$	62.5	$^{\circ}C/W$
Junction Temperature	$T_J$	150	$^{\circ}C$
Storage Temperature	$T_{STG}$	-55~ +150	$^{\circ}C$
Lead Temperature for Soldering Purposes(1/8" from case for 10s)	$T_L$	260	$^{\circ}C$

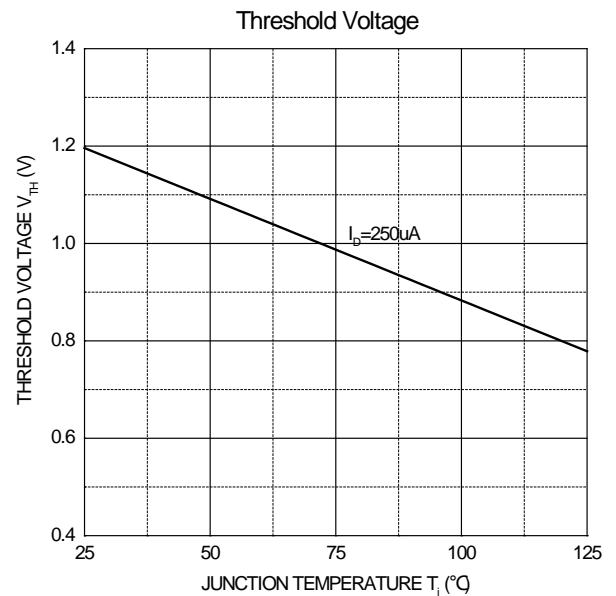
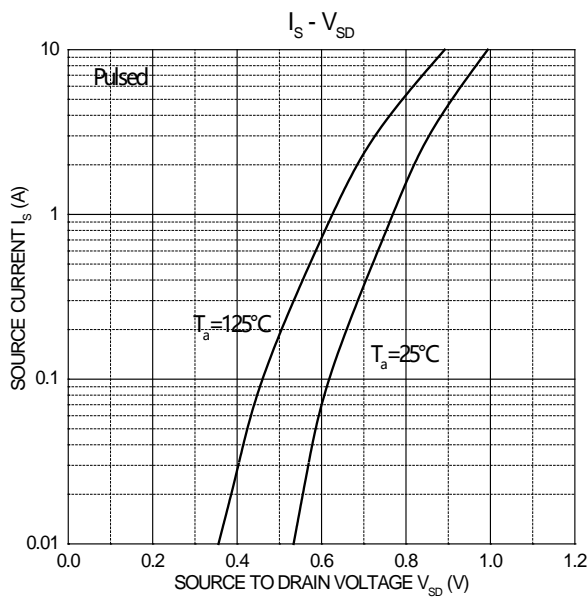
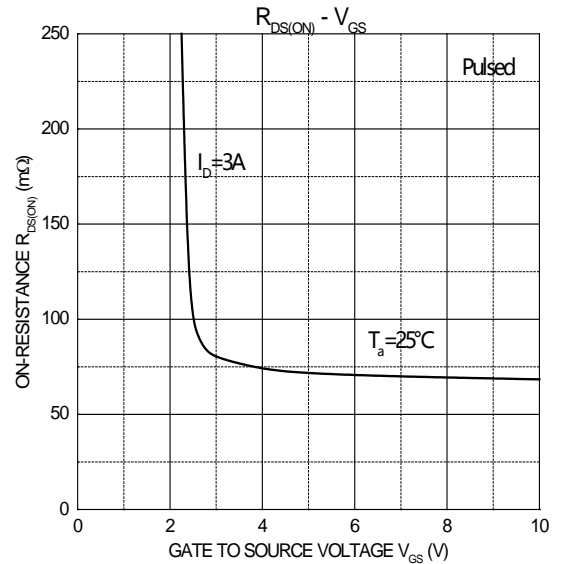
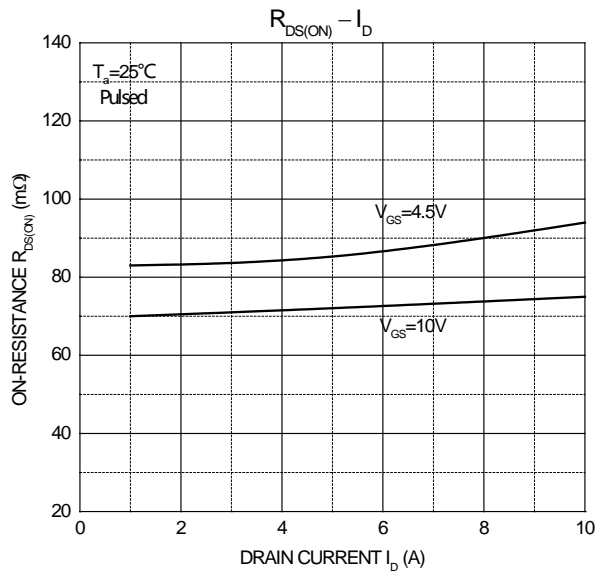
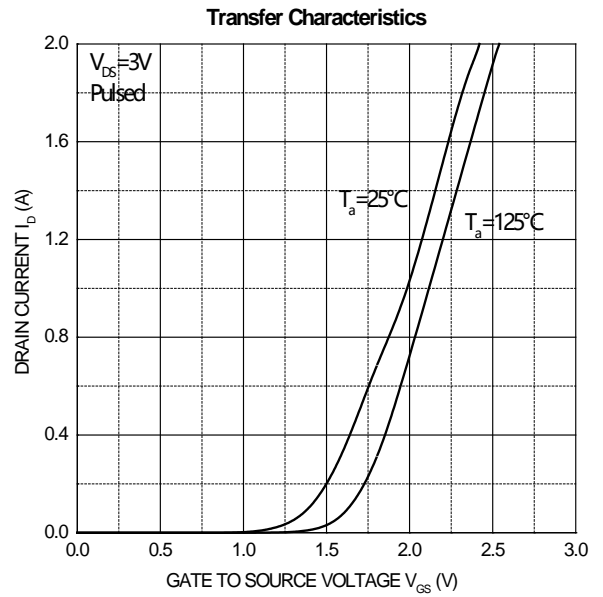
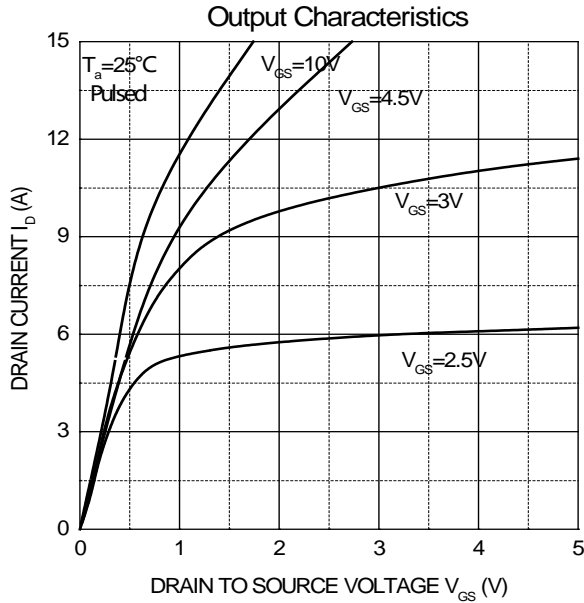
## MOSFET ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
<b>STATIC CHARACTERISTICS</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	60			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 60V, V_{GS} = 0V$			1	$\mu A$
Gate-Body Leakage Current	$I_{GSS}$	$V_{GS} = \pm 20V, V_{DS} = 0V$			$\pm 100$	nA
Gate Threshold Voltage <sup>3</sup>	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.5	1.2	2	V
Drain-Source On-Resistance <sup>3</sup>	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 7.5A$		75	105	m $\Omega$
		$V_{GS} = 4.5V, I_D = 7.5A$		86	125	
Forward Transconductance <sup>3</sup>	$g_{FS}$	$V_{DS} = 15V, I_D = 2A$	1.4	2.5		S
<b>DYNAMIC CHARACTERISTICS<sup>4</sup></b>						
Input Capacitance	$C_{iss}$	$V_{DS} = 30V, V_{GS} = 0V, f = 1MHz$		250		pF
Output Capacitance	$C_{oss}$			26		
Reverse Transfer Capacitance	$C_{rss}$			20		
<b>SWITCHING CHARACTERISTICS<sup>4</sup></b>						
Total Gate Charge	$Q_g$	$V_{DS} = 30V, V_{GS} = 4.5V, I_D = 3A$		7		nC
Gate-Source Charge	$Q_{gs}$			1.2		
Gate-Drain Charge	$Q_{gd}$			1.5		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V, V_{DD}=30V, I_D=1.5A, R_{GEN}=1\Omega$		6.5		ns
Turn-On Rise Time	$t_r$			15.2		
Turn-Off Delay Time	$t_{d(off)}$			15.2		
Turn-Off Fall Time	$t_f$			10.3		
<b>Source-Drain Diode characteristics<sup>4</sup></b>						
Body Diode Voltage	$V_{SD}$	$I_S = 3A, V_{GS} = 0V$		0.8	1.2	V

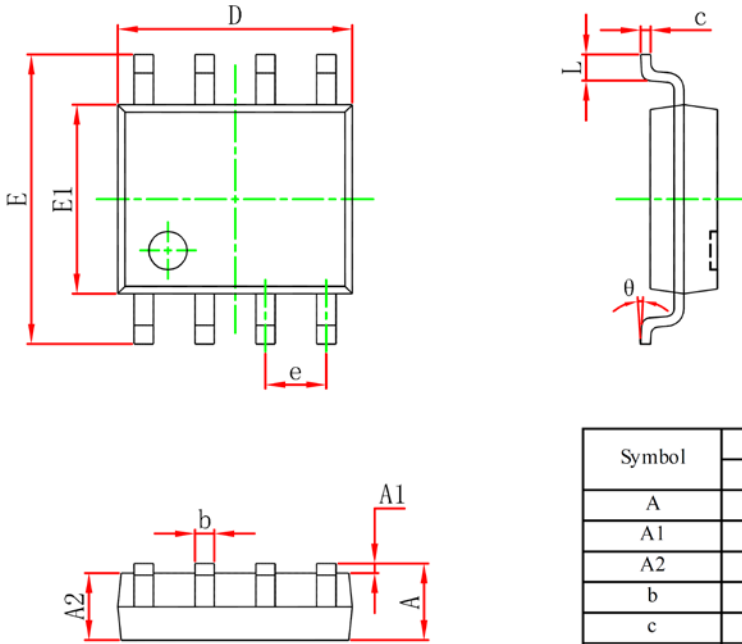
### Notes :

1. Repetitive rating : Pulse width limited by junction temperature.
2. Surface mounted on FR4 board ,  $t \leq 10s$ .
3. Pulse Test : Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 0.5\%$ .
4. Guaranteed by design, not subject to producing.

**Typical 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	0.170	0.250	0.007	0.010
D	4.800	5.000	0.189	0.197
e	1.270 (BSC)		0.050 (BSC)	
E	5.800	6.200	0.228	0.244
E1	3.800	4.000	0.150	0.157
L	0.400	1.270	0.016	0.050
$\theta$	0°	8°	0°	8°