PW03P06Q

60V P-Channel MOSFET

-3A -60V； $R_{DS(ON)typ}$=90mΩ@-4.5V， $R_{DS(ON)typ}$=75mΩ@-10V，

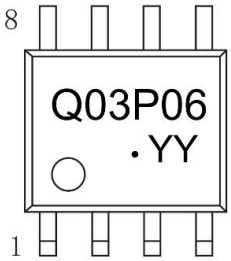
FEATURE

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

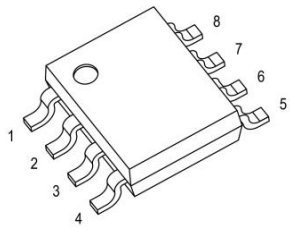
Application

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

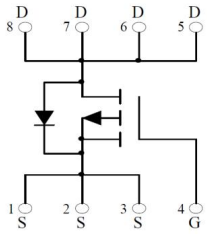
MARKING:



SOP8



Schematic diagram



ABSOLUTE MAXIMUM RATINGS (T_a=25℃ 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	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~ +150	℃

MOSFET ELECTRICAL CHARACTERISTICS(T_a=25℃ unless otherwise noted)

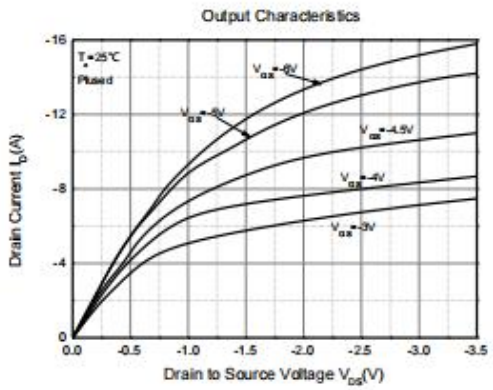
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
OFF CHARACTERISTCS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	-60			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =-48V,V_{GS} = 0V			-1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±100	nA
ON CHARACTERISTCS[3]						
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =VGS, 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 tranconductance	g_{FS}	V_{DS} =-15V, I_D =-3A	3			S
DYNAMIC 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	Qg	V_{DS} =-30V,V_{GS} =-10V,I_D=-3A		34		nC
Gate-Source Charge	Qgs			6		
Gate-Drain Charge	Qgd			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		
SOURCE-DRAIN DIODE CHARACTERISTCS						
Diode Forward voltage(1)	V_{SD}	V_{GS} =0V, I_S=-3A			1.2	V
Diode forward current	I_S				3	A
Diode pulsed forward currenta	I_{SM}				12	A

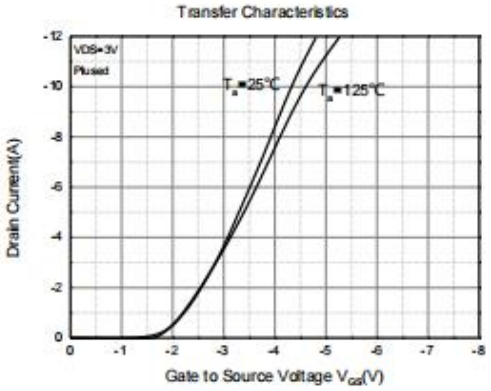
Notes :

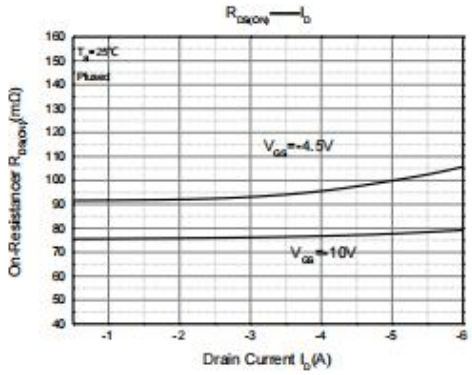
1.Pulse Test : Pulse Width≤300 μ s, duty cycle ≤2%.

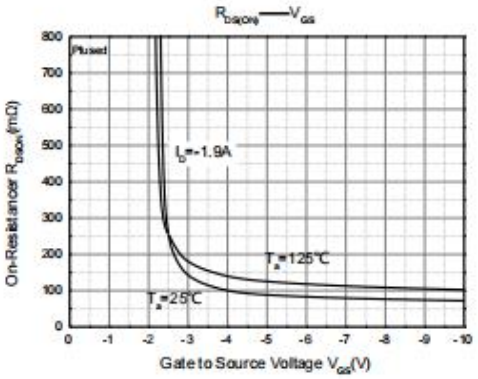
2.Guaranteed by design, not subject to production testing.

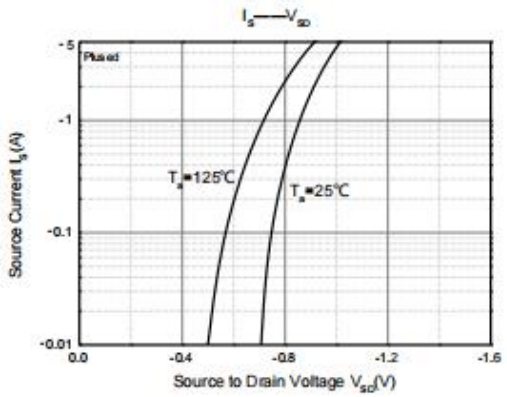
Typical Electrical and Thermal Characteristics

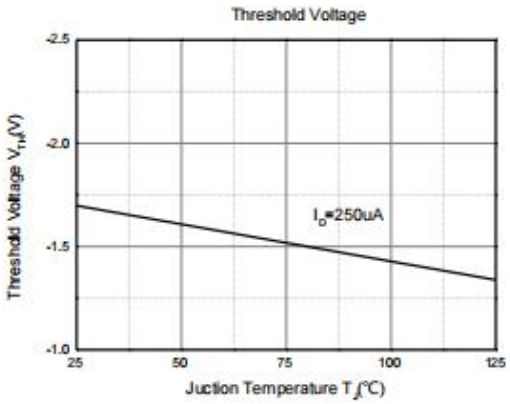




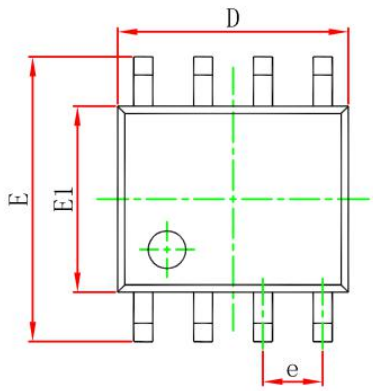


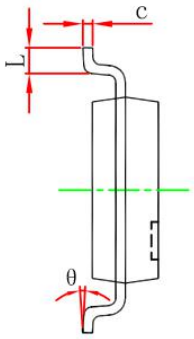


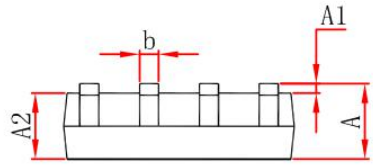




SOP8 Package Information







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	0.170	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
θ	0°	8°	0°	8°