

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
60V	8.7m Ω @10V	9A
	11.5m Ω @4.5V	

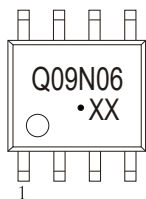
Feature

- High density cell design for ultra low $R_{DS(ON)}$
- Excellent package for good heat dissipation

Application

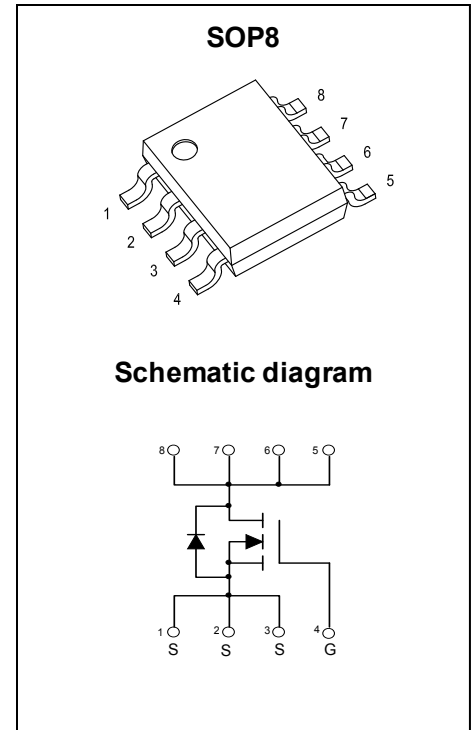
- Power switching application
- Hard switched and high frequency circuits
- Uninterruptible power supply

MARKING:



Q09N06 = Device Code
YY = Date Code

Front side



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 ^{1,2}	I_D	9	A
Pulsed Drain Current	I_{DM}	36	A
Single Pulsed Avalanche Energy	E_{AS}^*	16	mJ
Power Dissipation	P_D	3.1	W
Thermal Resistance from Junction to Ambient ¹	$t \leq 10\text{sec.}$	40	$^\circ\text{C/W}$
	Steady-State	65	$^\circ\text{C/W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^\circ\text{C}$

* E_{AS} Test Condition $V_{DD} = 15\text{V}$, $V_{GS} = 10\text{V}$, $L = 0.1\text{mH}$, $I_{AS} = 18\text{A}$

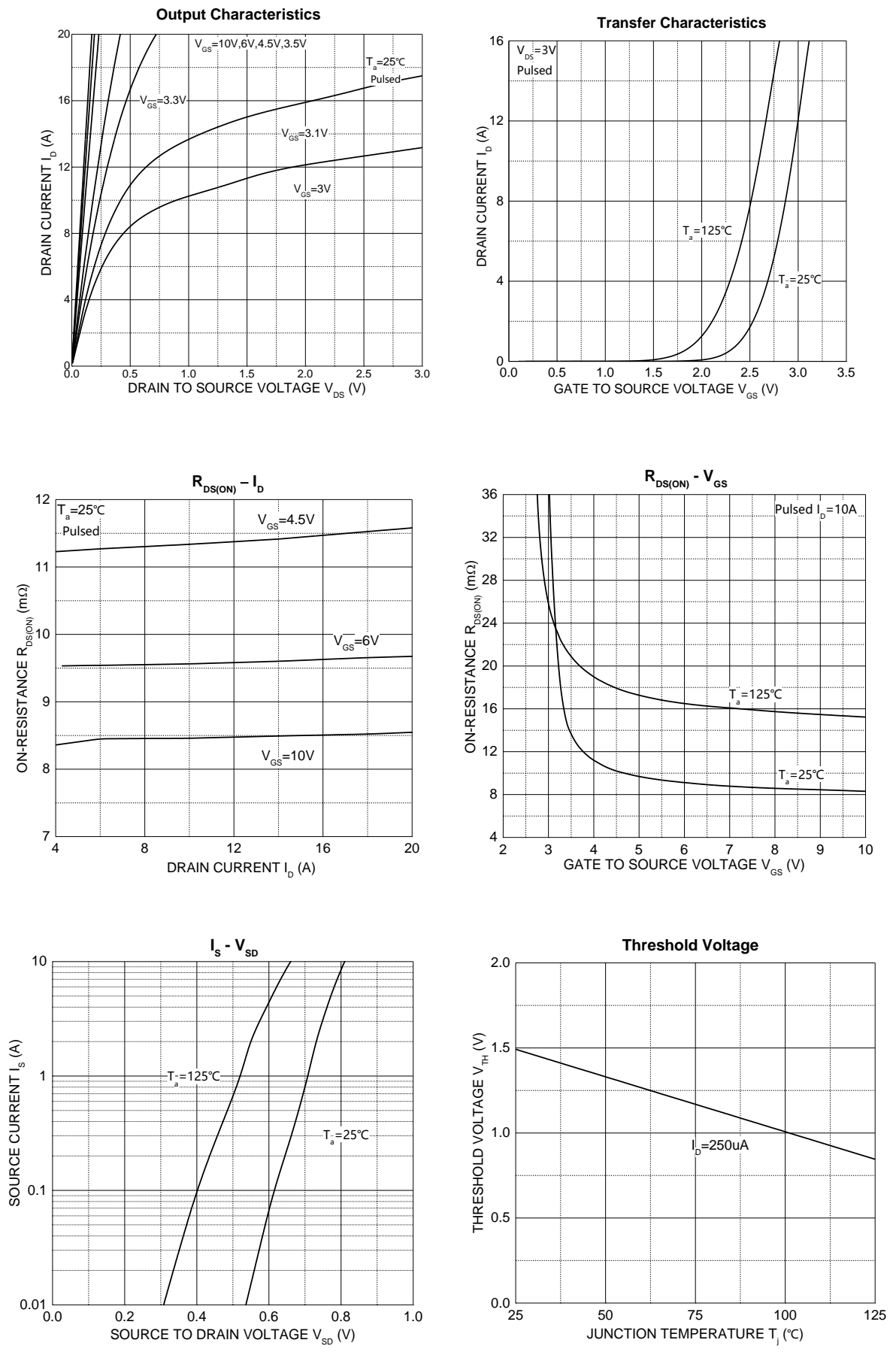
MOSFET ELECTRICAL CHARACTERISTICS(T_A = 25°C unless otherwise noted)

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} = 60V, V _{GS} = 0V			1	μA
Gate-body leakage current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±100	nA
On Characteristics						
Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	1	1.5	2.5	V
Drainsource onresistance	R _{DS(on)}	V _{GS} = 10V, I _D = 9A		8.7	16	mΩ
		V _{GS} = 4.5V, I _D = 9A		11.5	18	
Forward transconductance	g _{FS}	V _{DS} = 5V, I _D = 9A	10	20		S
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} = 30V, V _{GS} = 0V, f = 1MHz		2595		pF
Output Capacitance	C _{oss}			177		
Reverse Transfer Capacitance	C _{rss}			163		
Gate resistance	R _g	V _{DS} = 0V, V _{GS} = 0V, f = 1MHz		2		Ω
Switching Characteristics						
Total Gate Charge	Q _g	V _{DS} = 30V, V _{GS} = 10V, I _D = 8A		62		nC
GateSource Charge	Q _{gs}			10		
GateDrain Charge	Q _{gd}			21		
Turnon delay time	t _{d(on)}	V _{DD} = 30V, R _G = 3Ω, V _{GS} = 10V, R _L = 3Ω		9.5		ns
Turnon rise time	t _r			7		
Turnoff delay time	t _{d(off)}			35		
Turnoff fall time	t _f			6		
Diode Characteristics						
Diode Forward Voltage	V _{SD}	V _{GS} = 0V, I _S = 9A			1.2	V

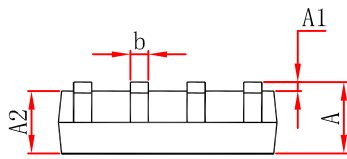
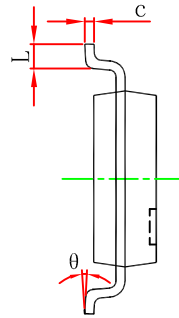
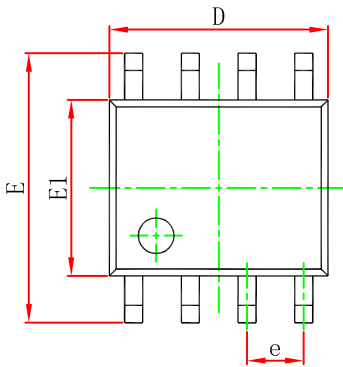
Notes :

- 1.R_{θJA} is measured with the device mounted on 1 in² FR4 board with 1 oz. single side copper, in a still air environment with T_A = 25°C.
- 2.R_{θJA} is measured in the steady state
- 3.Pulse test : Pulse width ≤ 380μs, duty cycle ≤ 2%.

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
θ	0°	8°	0°	8°

单击下面可查看定价，库存，交付和生命周期等信息

[>>GP\(格瑞宝\)](#)