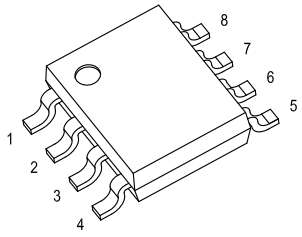
GP4828Q

60V Dual N-Channel MOSFET

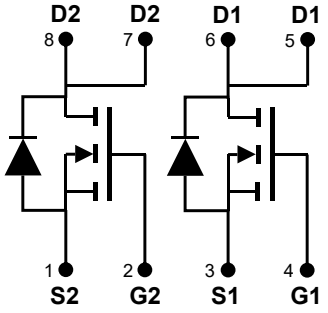
Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
60V	30mΩ@10V	6.0A
	31mΩ@6V	
	35mΩ@4.5V	

SOP8



Schematic diagram



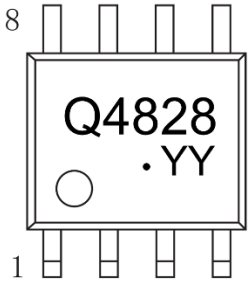
Feature

- Tench Power MOSFET
- Low $R_{DS(ON)}$
- Low Gate Charge

Application

- PWM Applications
- Load Switch

MARKING:



Q4828 = Device Code

YY = Date Code

Soild Dot = Green Device

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[1,2]	I_D	6.0	A
Pulsed Drain Current	I_{DM}	20	A
Single Pulsed Avalanche Energy[4]	E_{AS}	49	mJ
Power Dissipation	P_D	1.25	W
Thermal Resistance from Junction to Ambient[1,2]	$R_{\theta JA}$	100	℃/W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55~ +150	℃

MOSFET ELECTRICAL CHARACTERISTICS (T_A=25℃ 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	1.0	1.7	3.0	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS} = 10V,I_D = 4.5A		30	56	mΩ
		V_{GS} = 6V,I_D = 3A		31	58	
		V_{GS} = 4.5V,I_D = 3A		35	60	
Forward Tranconductance	g_{FS}	V_{DS} = 5V,I_D = 4.5A		8		S
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS} =30V,V_{GS} =0V,f = 1MHz		950		pF
Output Capacitance	C_{oss}			61		
Reverse Transfer Capacitance	C_{rss}			53		
Switching Characteristics						
Total Gate Charge	Q_g	V_{DS} = 30V,V_{GS} = 10V,I_D = 4.5A		9		nC
Gate-Source Charge	Q_{gs}			3.2		
Gate-Drain Charge	Q_{gd}			4.5		
Turn-On Delay Time	$td_{(on)}$	V_{DD} = 30V,V_{GS} = 10V,R_G = 3Ω,R_L = 6.7Ω		9.4		ns
Turn-On Rise Time	t_r			4.6		
Turn-Off Delay Time	$t_{d(off)}$			20		
Turn-Off Fall Time	t_f			4		
Source-Drain Diode Characteristics						
Continuous Source Current	I_S				4.5	A
Pulsed Source Current	I_{SM}				20	
Diode Forward Voltage	V_{SD}	V_{GS} = 0V,I_S = 1A			1.2	V

Notes:

1.$R_{\theta JA}$ is measured with the device mounted on 1 in ^{2} FR4 board with 1oz. single side copper, in a still air environment with T_A = 25°C.

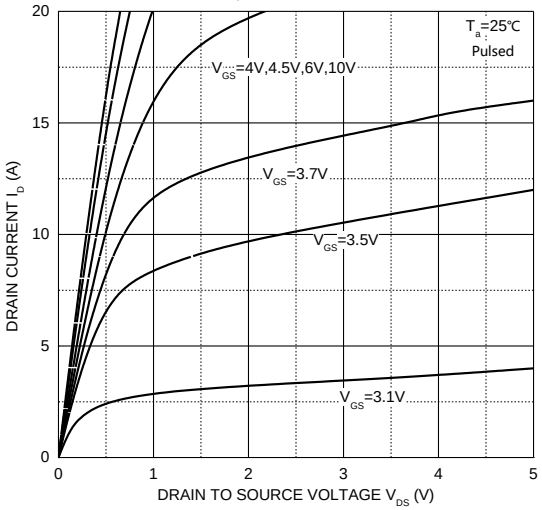
2.$R_{\theta JA}$ is measured in the steady state

3.Pulse test: Pulse width ≤ 380μs, duty cycle ≤ 2%.

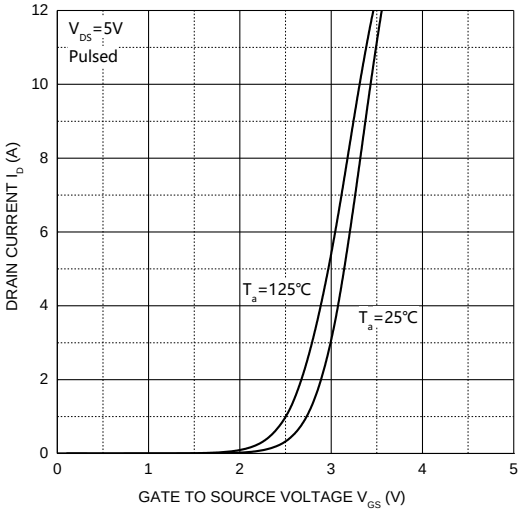
4.EAS condition: V_{DD} = 30V, V_{GS} = 10V, L = 0.5mH, I_{AS} = 14A, R_G = 25Ω Starting T_J = 25°C.

Typical Electrical and Thermal Characteristics

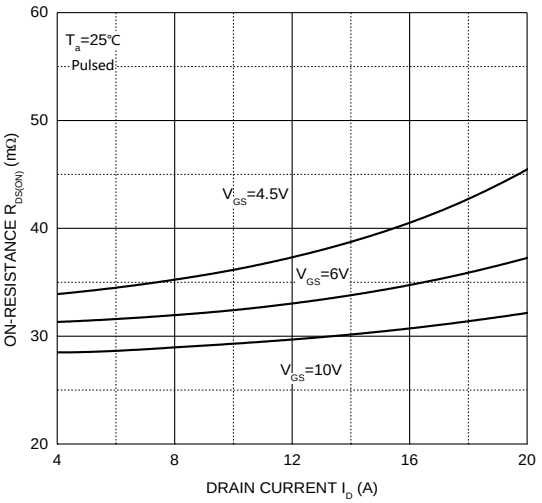
Output Characteristics



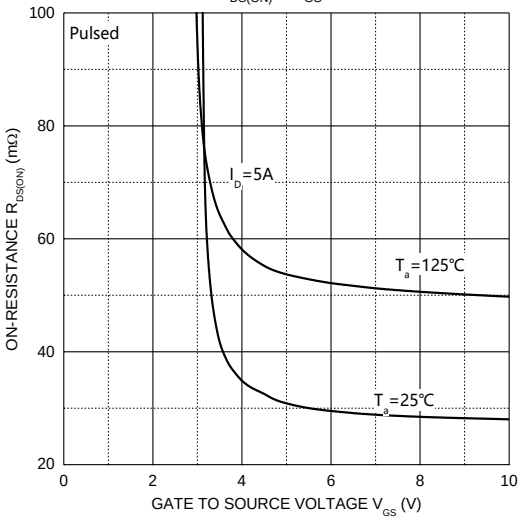
Transfer Characteristics



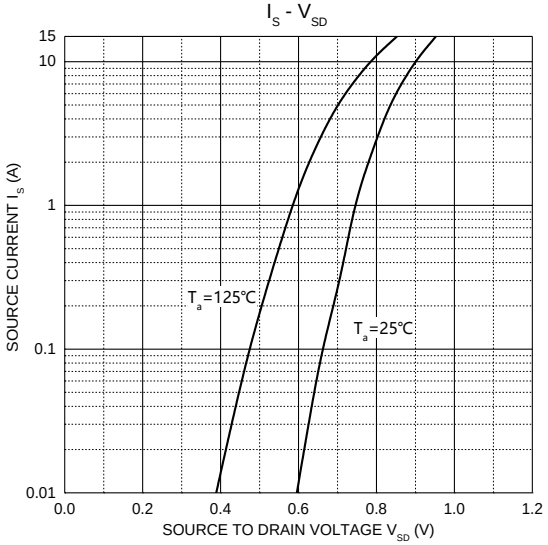
$R_{DS(ON)}$ – I_D



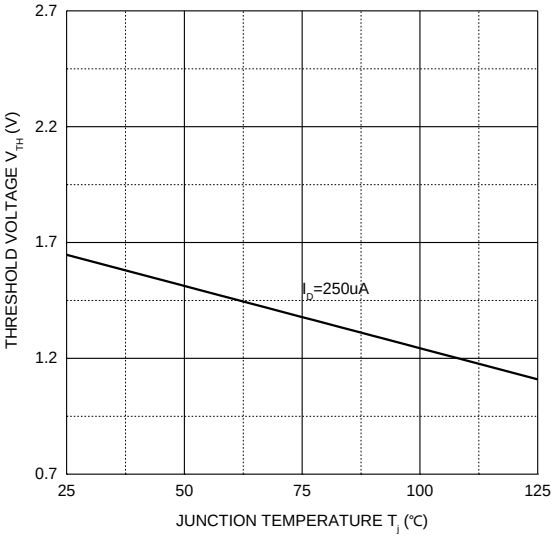
$R_{DS(ON)}$ - V_{GS}



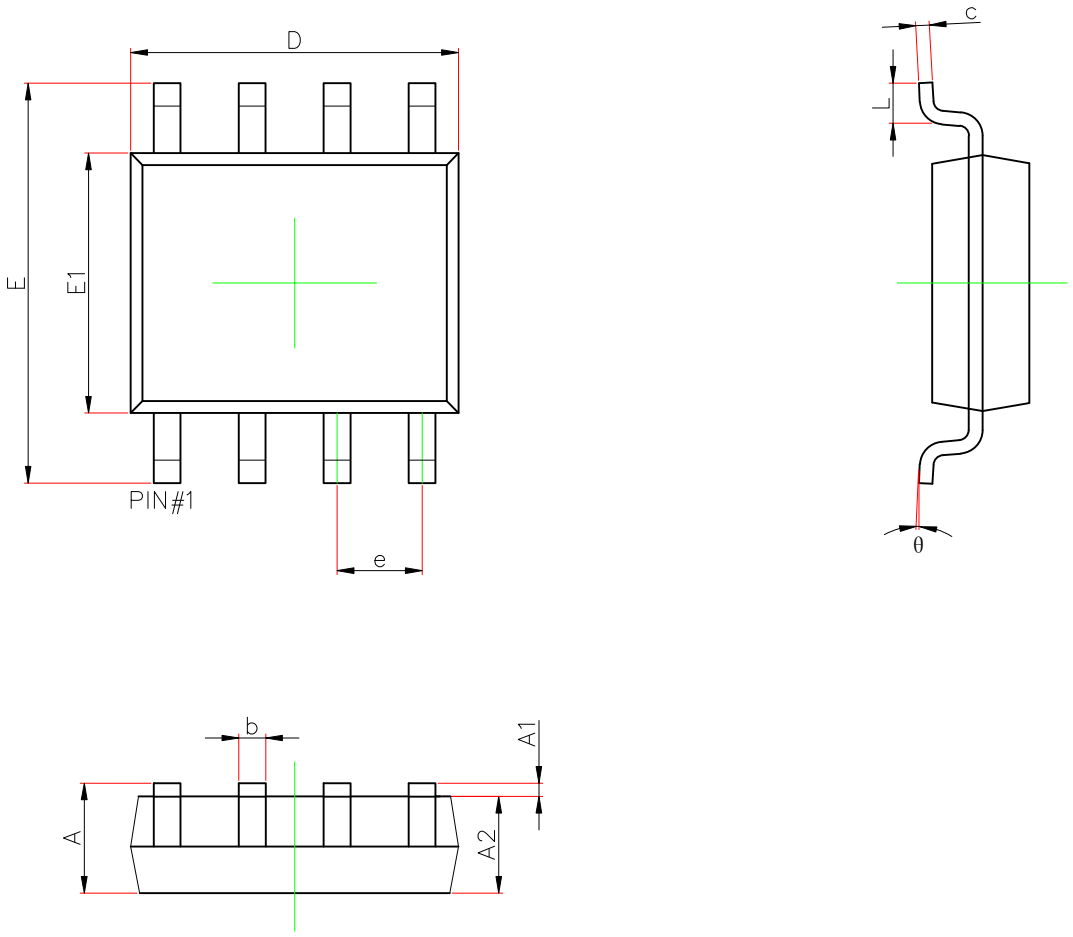
I_S - V_{SD}



Threshold Voltage



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°

Attention：

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