

Product Summary

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

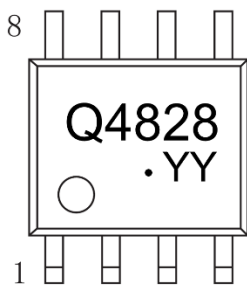
Feature

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

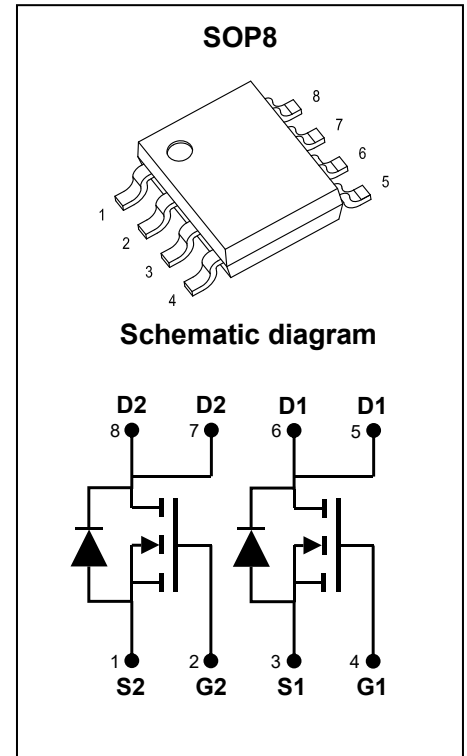
Application

- PWM Applications
- Load Switch

MARKING:



Q4828 = Device Code
 YY = Date Code
 Solid Dot = Green Device



ABSOLUTE MAXIMUM RATINGS ($T_C=25^\circ\text{C}$ 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	6.0	A
Pulsed Drain Current	I_{DM}	20	A
Power Dissipation	P_D	1.25	W
Thermal Resistance from Junction to Ambient ^{1,2}	$R_{\theta JA}$	100	$^\circ\text{C}/\text{W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^\circ\text{C}$

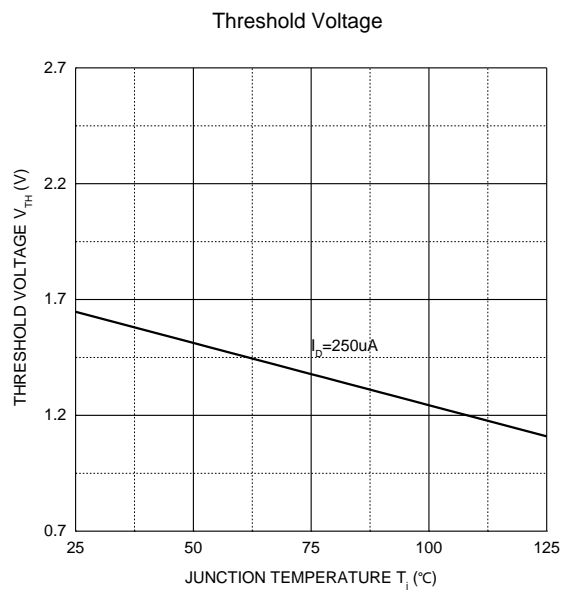
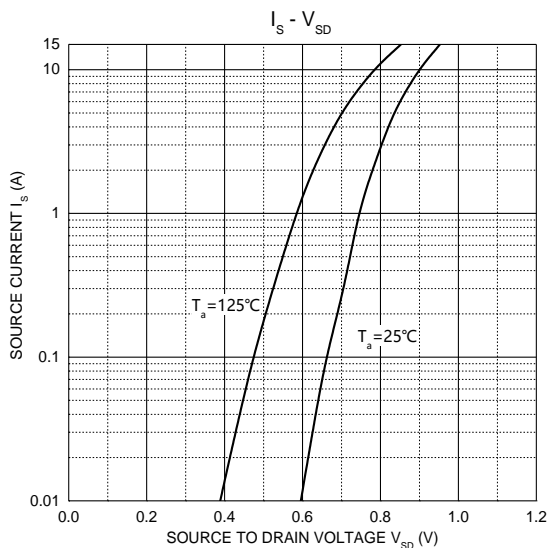
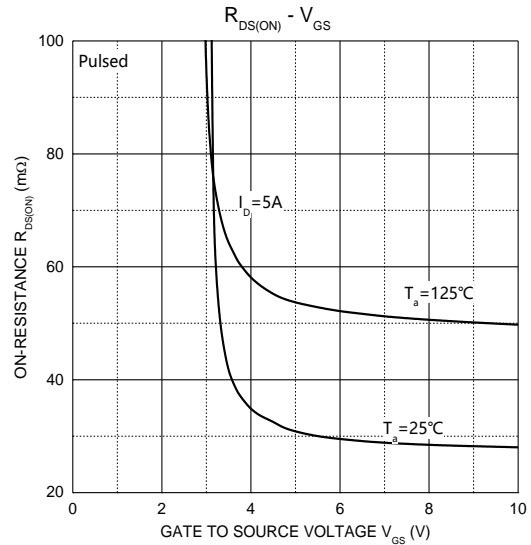
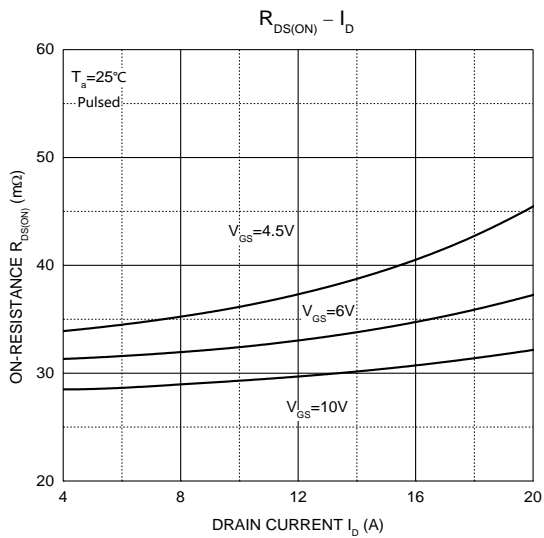
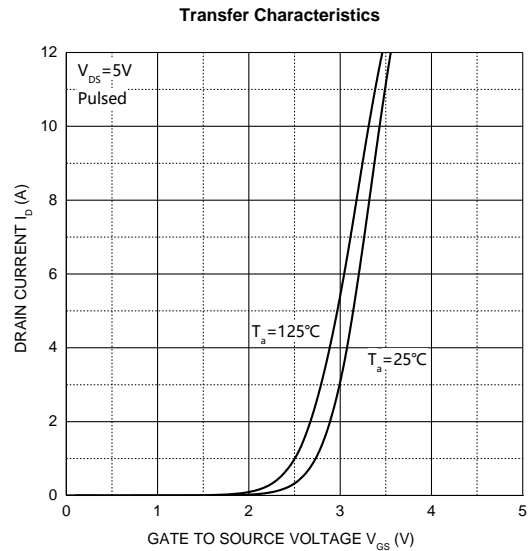
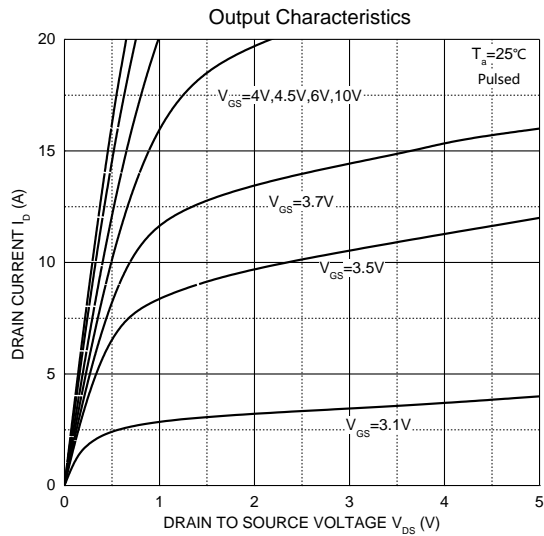
MOSFET ELECTRICAL CHARACTERISTICS (T_J=25°C unless otherwise noted)

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	1.0	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 transconductance	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	t _{d(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, T _J = 25°C			1.2	V

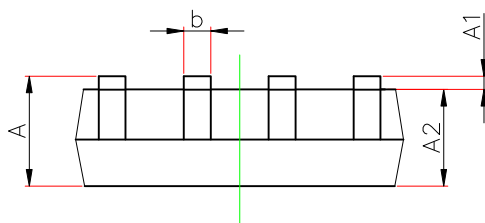
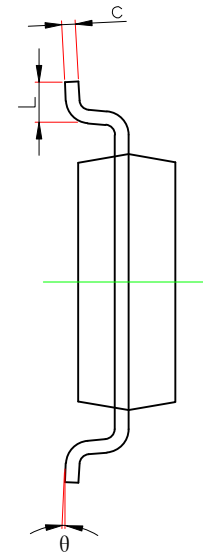
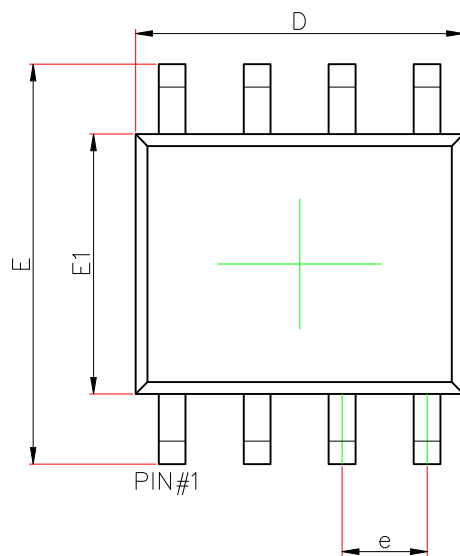
Notes :

1. R_{θJA} is measured with the device mounted on 1 in² FR4 board with 1oz. 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 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°