



Micro Commercial Components

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MCQ4828

Dual N -Channel Mosfet

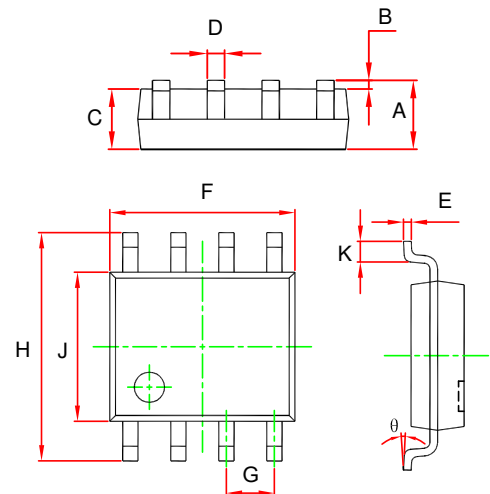
Features

- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/Rohs Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking: Q4828

Maximum ratings ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

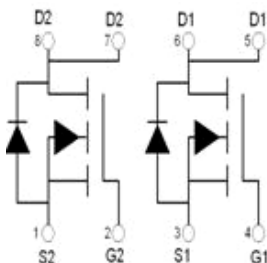
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current (t ≤ 10 s) (note 1)	I_D	4.5	A
Pulsed Drain Current (note 2)	I_{DM}	20	A
Repetitive Avalanche Energy 0.1mH (note 2)	E_{AR}, E_{AS}	18	mJ
Power Dissipation	P_D	1.25	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	100	$^{\circ}\text{C}/\text{W}$
Operating Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	

SOP-8



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.053	0.069	1.350	1.750	
B	0.004	0.010	0.100	0.250	
C	0.053	0.061	1.350	1.550	
D	0.013	0.020	0.330	0.510	
E	0.007	0.010	0.170	0.250	
F	0.189	0.197	4.800	5.000	
G	0.050 (BSC)		1.270 (BSC)		
H	0.228	0.244	5.800	6.200	
J	0.150	0.157	3.800	4.000	
K	0.016	0.050	0.400	1.270	
θ	0 $^{\circ}$	8 $^{\circ}$	0 $^{\circ}$	8 $^{\circ}$	

Equivalent Circuit



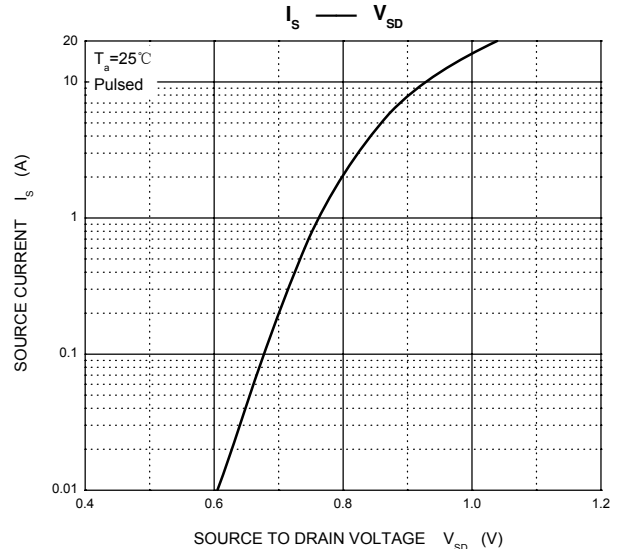
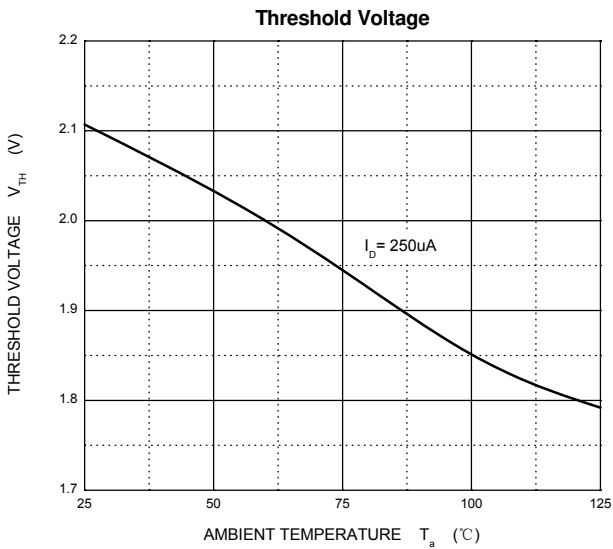
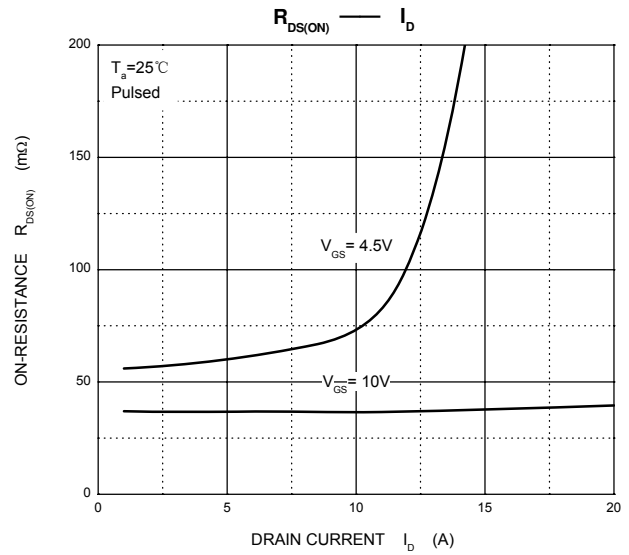
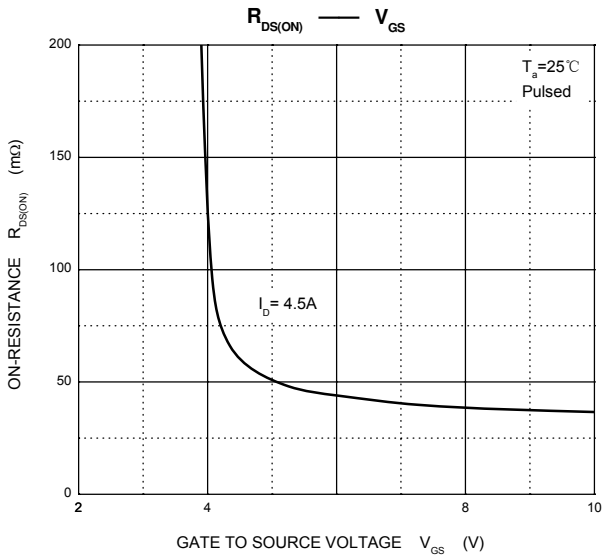
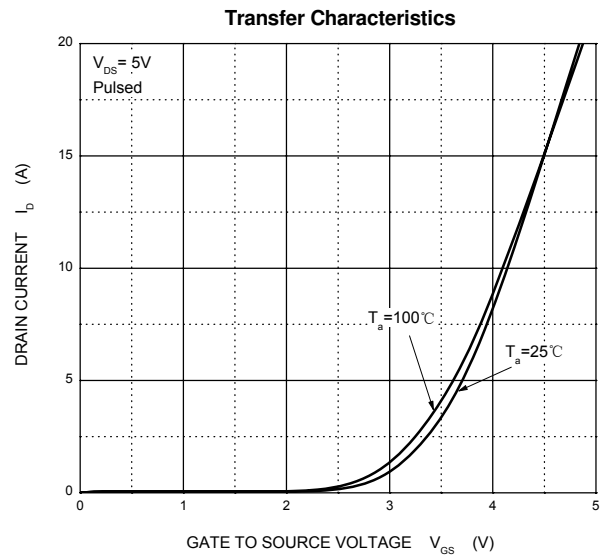
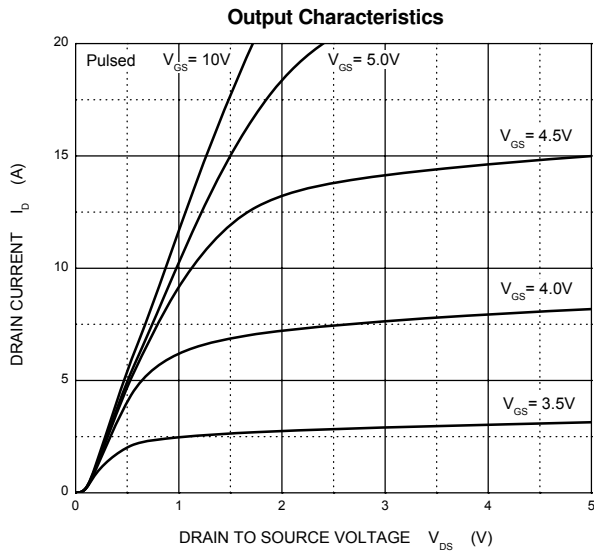
Electrical characteristics (T_a=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC PARAMETERS						
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
Gate threshold voltage (note 3)	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	1	2.1	3	V
Drain-source on-resistance (note 3)	R _{DS(on)}	V _{GS} = 10V, I _D = 4.5A		40	56	mΩ
		V _{GS} = 4.5V, I _D = 3A		55	77	mΩ
Forward tranconductance (note 3)	g _{FS}	V _{DS} = 5V, I _D = 4.5A	6			S
Diode forward voltage (note 3)	V _{SD}	I _S = 1A, V _{GS} = 0V			1	V
DYNAMIC PARAMETERS (note 4)						
Input Capacitance	C _{iss}	V _{DS} = 30V, V _{GS} = 0V, f = 1MHz			540	pF
Output Capacitance	C _{oss}			60		pF
Reverse Transfer Capacitance	C _{rss}			25		pF
SWITCHING PARAMETERS (note 4)						
Turn-on delay time	t _{d(on)}	V _{GS} = 10V, V _{DS} = 30V, R _L = 6.7Ω, R _{GEN} = 3Ω		4.7		ns
Turn-on rise time	t _r			2.3		ns
Turn-off delay time	t _{d(off)}			15.7		ns
Turn-off fall time	t _f			1.9		ns
Total Gate Charge (10V)	Q _g	V _{DS} = 30V, V _{GS} = 10V, I _D = 4.5A			10.5	nC
Total Gate Charge (4.5V)					5.5	nC
Gate-Source Charge	Q _{gs}			1.6		nC
Gate-Drain Charge	Q _{gd}			2.2		nC

Notes :

1. The value in any given application depends on the user's specific board design.
2. Repetitive rating : Pulse width limited by junction temperature.
3. Pulse Test : Pulse Width ≤ 300μs, Duty Cycle ≤ 0.5%.
4. These parameters have no way to verify.

Typical Characteristics





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Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel:4Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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