



Micro Commercial Components



Micro Commercial Components
20736 Marilla Street Chatsworth
CA 91311
Phone: (818) 701-4933
Fax: (818) 701-4939

MCQ4828

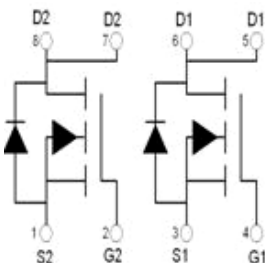
Features

- 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)

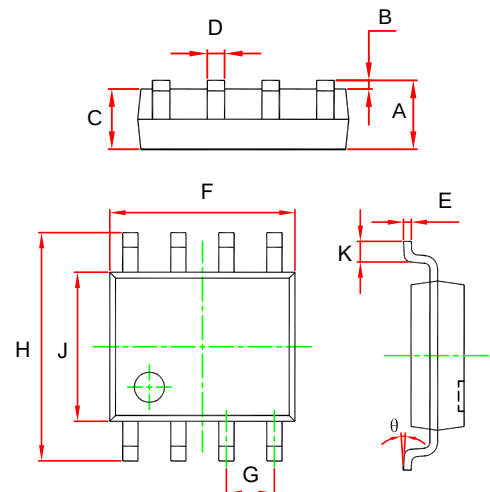
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current ($t \leq 10s$) (note 1)	I_D	4.5	A
Pulsed Drain Current (note 2)	I_{DM}	20	A
Repetitive Avalanche Energy 0.1mH (note 2)	E_{AR}, E_{AS}	18	mJ
Power Dissipation	P_D	1.25	W
Thermal Resistance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

Equivalent Circuit



Dual N -Channel Mosfet

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	
theta	0°	8°	0°	8°	

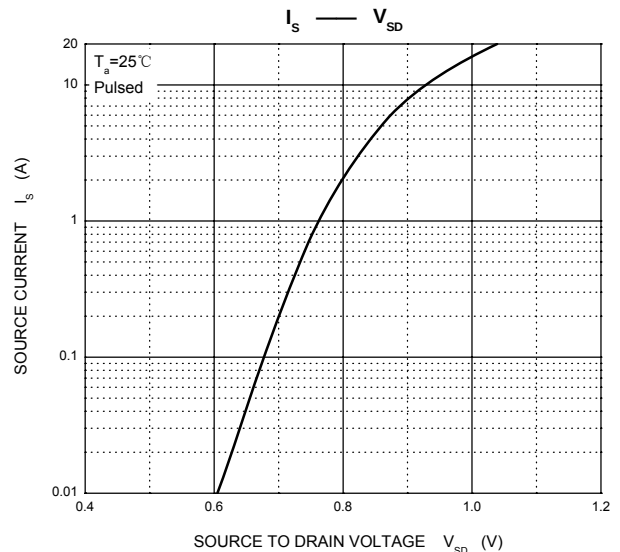
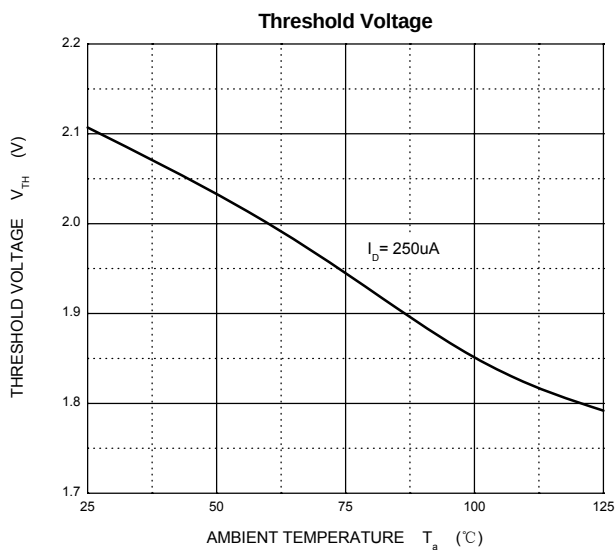
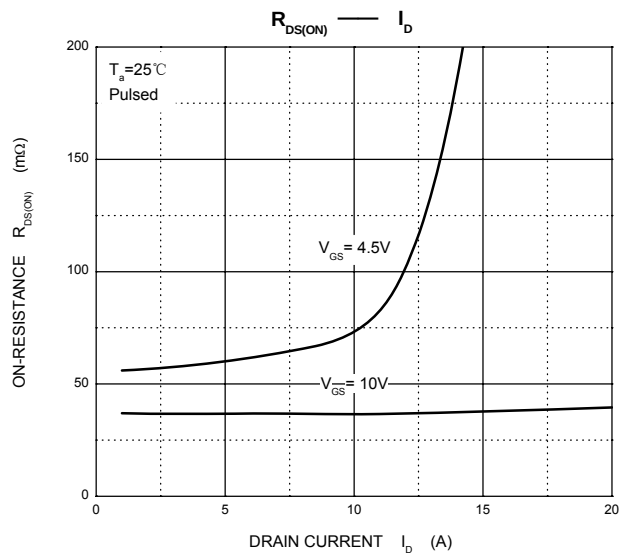
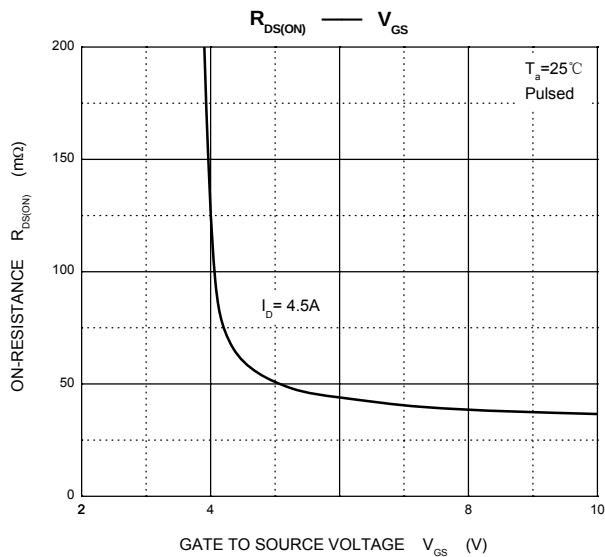
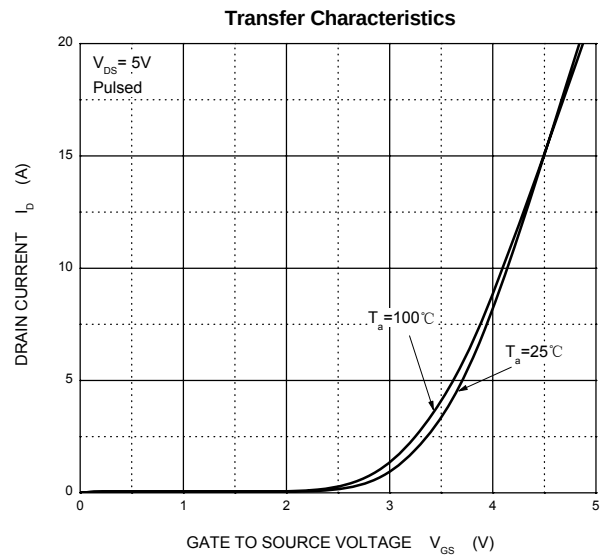
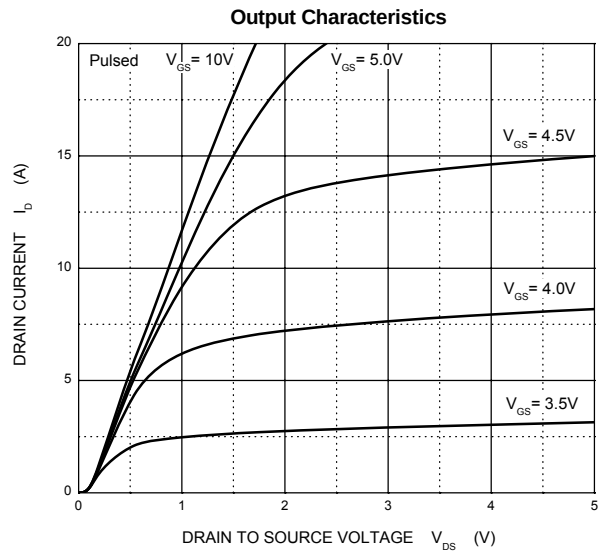
Electrical characteristics (T_a=25°C unless otherwise noted)

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





Ordering Information :

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

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

IMPORTANT NOTICE

Micro Commercial Components Corp. reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . **Micro Commercial Components Corp .** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp .** and all the companies whose products are represented on our website, harmless against all damages.

LIFE SUPPORT

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

CUSTOMER AWARENESS

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.