



Micro Commercial Components



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

# MCQ4822

## Features

- Halogen free available upon request by adding suffix "-HF"
- High power and current handing capability
- Lead free product is acquired
- Surface mount package
- Moisture Sensitivity Level 1
- Epoxy meets UL 94 V-0 flammability rating

## Mechanical Data

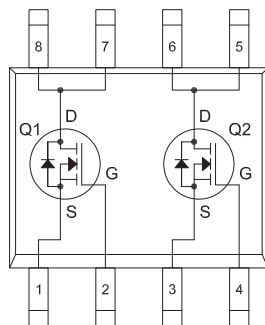
- Case: SOP-8, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Marking: Q4822

## Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Thermal Resistance; 89°C/W Junction To Ambient

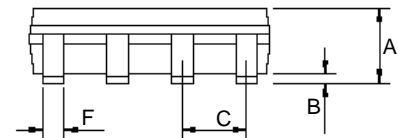
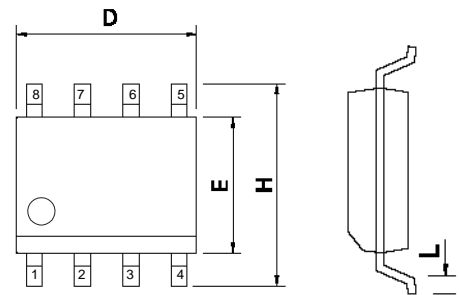
Parameter	Symbol	Value	Unit
Drain-Source-Voltage	$V_{DSS}$	30	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Continuous Drain Current (t $\leq$ 10s) (note 1)	$I_D$	8.5	A
Pulsed Drain Current (note 2)	$I_{DM}$	30	A
Power Dissipation	$P_D$	1.4	W

## Equivalent circuit



## N-Channel Enhancement Mode Field Effect Transistor

## SOP-8



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	.053	.069	1.35	1.75	
B	.004	.010	0.10	0.25	
C	0.050BSC		1.27BSC		
F	.013	.020	0.33	0.51	
D	.189	.197	4.80	5.00	
E	.150	.157	3.80	4.00	
H	.228	.244	5.80	6.20	
L	.016	.050	0.40	1.27	

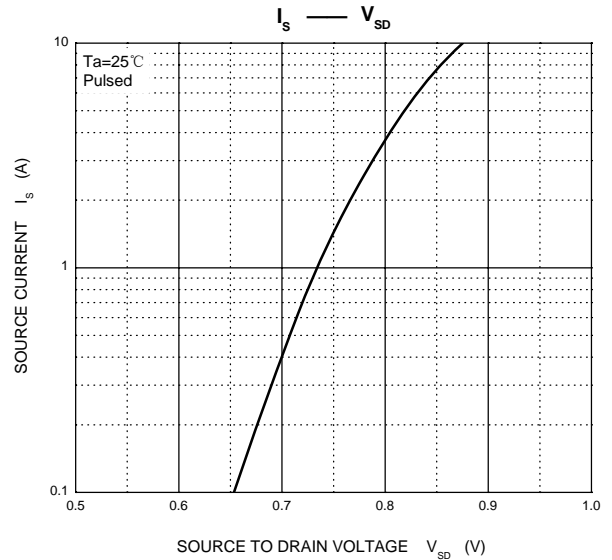
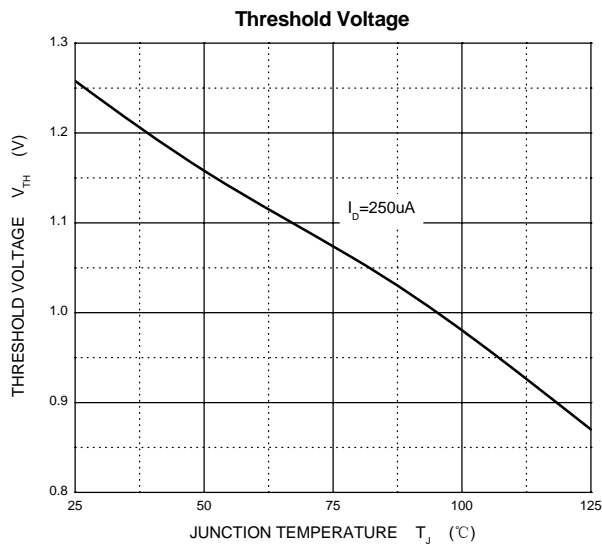
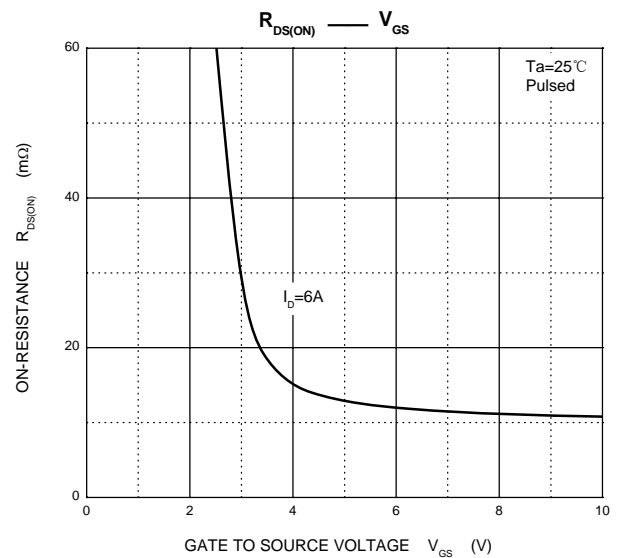
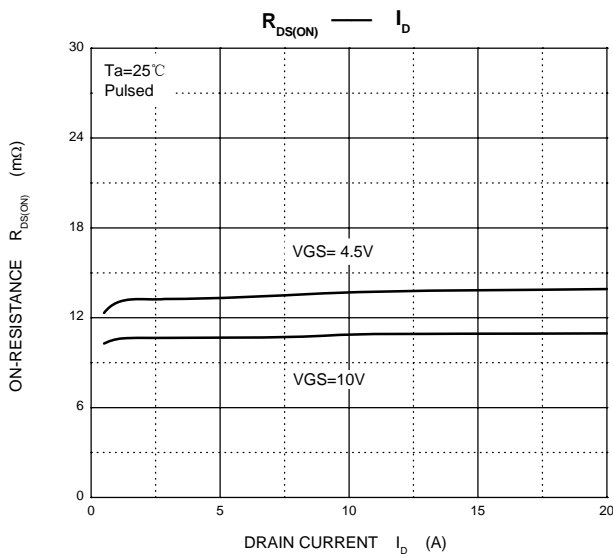
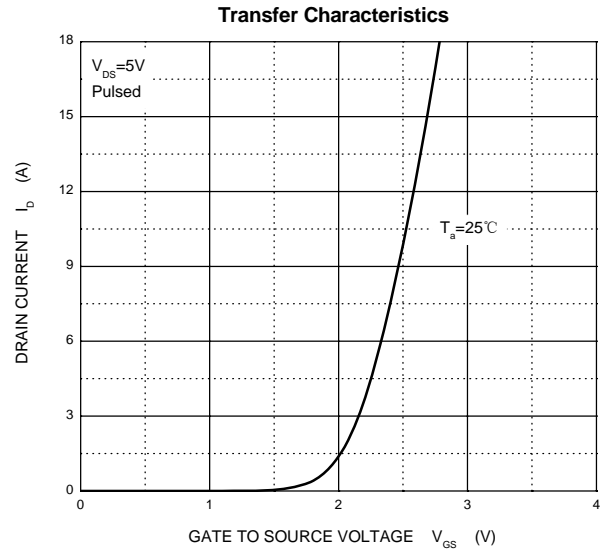
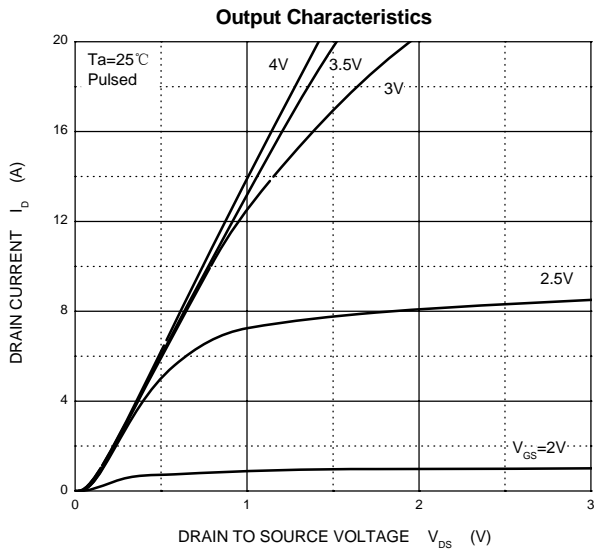
**Electrical characteristics (T<sub>a</sub>=25°C unless otherwise noted)**

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>STATIC PARAMETERS</b>						
Drain-source breakdown voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = 250μA	30			V
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> = 24V, V <sub>GS</sub> = 0V			1	μA
Gate-body leakage current	I <sub>GSS</sub>	V <sub>GS</sub> = ±20V, V <sub>DS</sub> = 0V			±100	nA
Gate threshold voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250μA	1		3	V
Drain-source on-resistance (note 3)	R <sub>DS(on)</sub>	V <sub>GS</sub> = 10V, I <sub>D</sub> = 8.5A			16	mΩ
		V <sub>GS</sub> = 4.5V, I <sub>D</sub> = 6A			26	mΩ
Forward transconductance (note 3)	g <sub>FS</sub>	V <sub>DS</sub> = 5V, I <sub>D</sub> = 8.5A		20		S
Diode forward voltage (note 3)	V <sub>SD</sub>	I <sub>S</sub> = 1A, V <sub>GS</sub> = 0V			1	V
<b>DYNAMIC PARAMETERS(Note 4)</b>						
Input capacitance	C <sub>iss</sub>	V <sub>DS</sub> = 15V, V <sub>GS</sub> = 0V, f = 1MHz			1250	pF
Output capacitance	C <sub>oss</sub>			180		pF
Reverse transfer capacitance	C <sub>rss</sub>			110		pF
<b>SWITCHING PARAMETERS(Note 4)</b>						
Turn-on delay time	t <sub>d(on)</sub>	V <sub>GS</sub> = 10V, V <sub>DS</sub> = 15V, R <sub>L</sub> = 1.8Ω, R <sub>GEN</sub> = 3Ω			7.5	ns
Turn-on rise time	t <sub>r</sub>				6.5	ns
Turn-off delay time	t <sub>d(off)</sub>				25	ns
Turn-off fall time	t <sub>f</sub>				5	ns
Total gate charge (10V)	Q <sub>g</sub>	V <sub>DS</sub> = 15V, V <sub>GS</sub> = 10V, I <sub>D</sub> = 8.5A			23	nC
Total gate charge (4.5V)					11.2	nC
Gate-source charge	Q <sub>gs</sub>			2.6		nC
Gate-drain charge	Q <sub>gd</sub>			4.2		nC

**Notes :**

1. The value of R<sub>θJA</sub> is measure with the device mounted on 1in<sup>2</sup> FR-4 board with 2oz. Copper, in a still air environment with T<sub>a</sub>=25°C. The value in any given application depends on the user's specific board design. The current rating is based on the t≤10s thermal resistance rating.
2. Repetitive rating : Pulse width limited by junction temperature.
3. Pulse Test : Pulse Width≤300μs, Duty Cycle≤2%.
4. Guaranteed by design, not subject to production testing.

# MCQ4822





Micro Commercial Components

### 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.

[www.mccsemi.com](http://www.mccsemi.com)

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [MOSFET](#) category:*

*Click to view products by [Micro Commercial Components \(MCC\)](#) manufacturer:*

Other Similar products are found below :

[614233C](#) [648584F](#) [IRFD120](#) [JANTX2N5237](#) [FCA20N60\\_F109](#) [FDZ595PZ](#) [2SK2545\(Q,T\)](#) [405094E](#) [423220D](#) [TPCC8103,L1Q\(CM](#)  
[MIC4420CM-TR](#) [VN1206L](#) [614234A](#) [715780A](#) [NTNS3166NZT5G](#) [SSM6J414TU,LF\(T](#) [751625C](#) [BUK954R8-60E](#) [NTE6400](#) [SQJ402EP-](#)  
[T1-GE3](#) [2SK2614\(Te16L1,Q\)](#) [2N7002KW-FAI](#) [DMN1017UCP3-7](#) [EFC2J004NUZTDG](#) [ECH8691-TL-W](#) [FCAB21350L1](#) [P85W28HP2F-](#)  
[7071](#) [DMN1053UCP4-7](#) [NTE221](#) [NTE222](#) [NTE2384](#) [NTE2903](#) [NTE2941](#) [NTE2945](#) [NTE2946](#) [NTE2960](#) [NTE2967](#) [NTE2969](#) [NTE2976](#)  
[NTE6400A](#) [NTE2910](#) [NTE2916](#) [NTE2956](#) [NTE2911](#) [DMN2080UCB4-7](#) [TK10A80W,S4X\(S](#) [SSM6P69NU,LF](#) [DMP22D4UFO-7B](#)  
[DMN1006UCA6-7](#) [DMN16M9UCA6-7](#)