



Micro Commercial Components

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MCQ60P05

P -Channel Enhancement Mode Field Effect Transistor

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: Q60P05

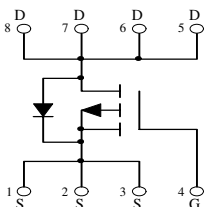
Maximum ratings ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-60	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	-5	A
Pulsed Drain Current ⁽¹⁾	I_{DM}	-25	A
Thermal Resistance from Junction to Ambient ⁽²⁾	$R_{\theta JA}$	100	$^{\circ}\text{C}/\text{W}$
Operating Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	

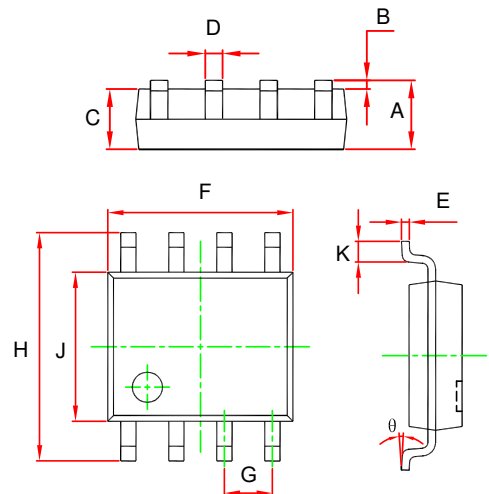
Notes :

1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, $t \leq 10$ sec.

Equivalent Circuit



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 $^{\circ}$	

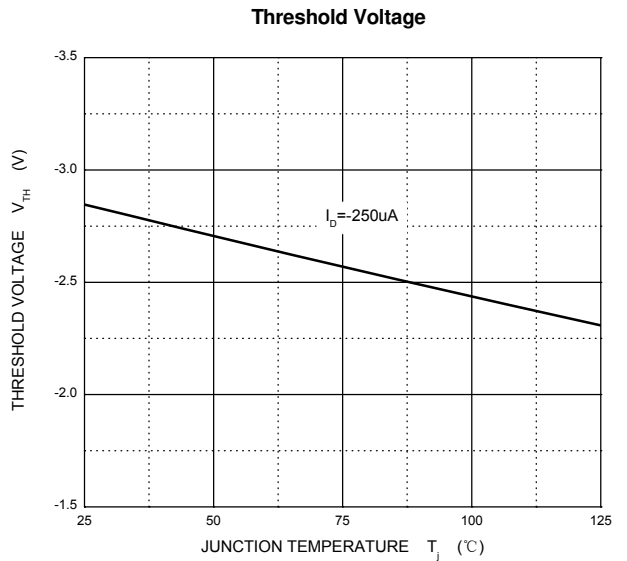
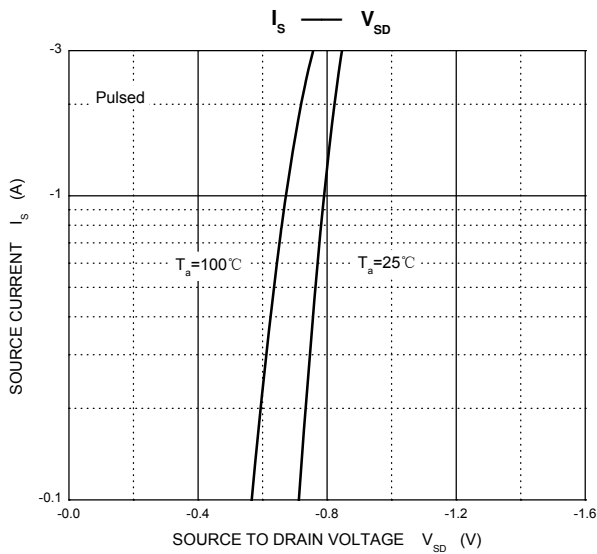
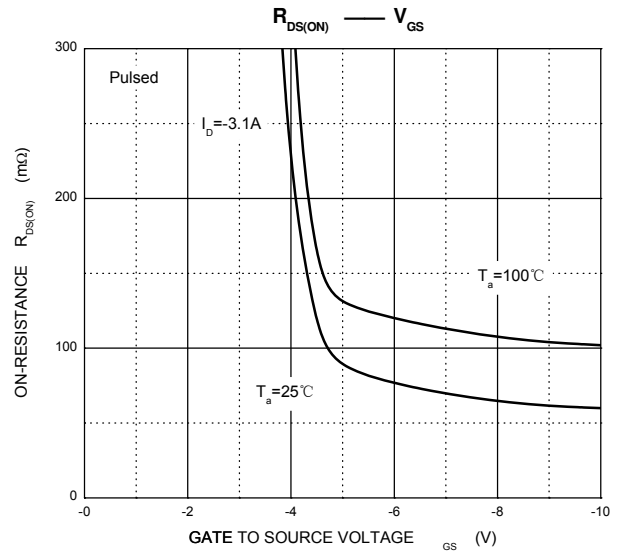
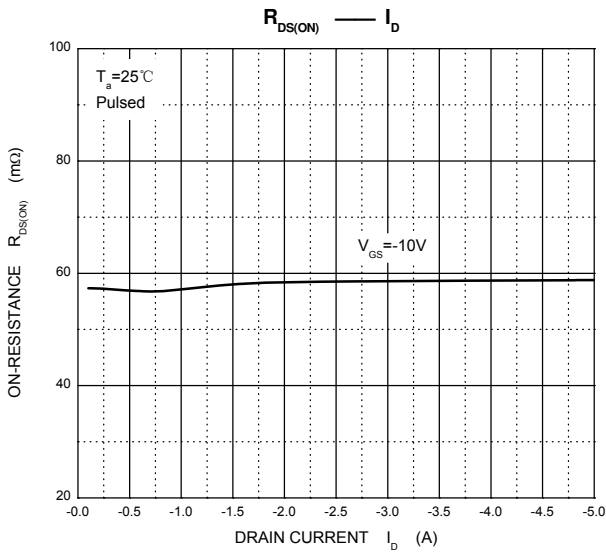
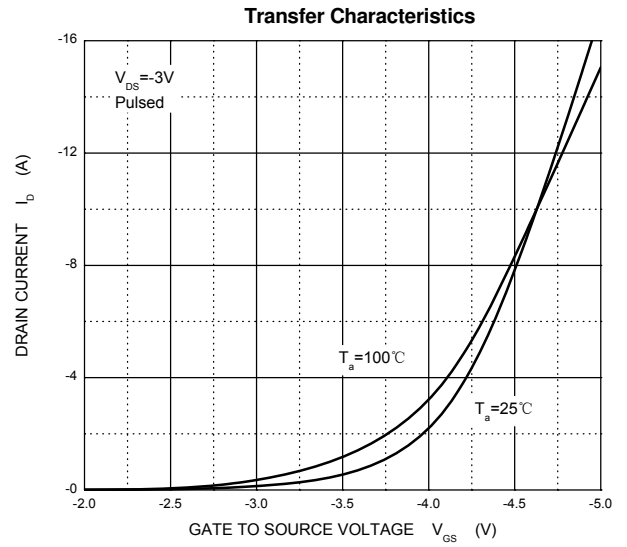
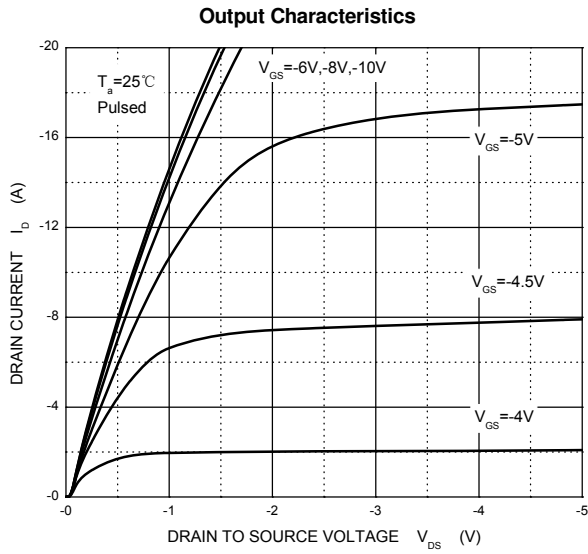
Electrical characteristics ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Off Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=-250\mu A$	-60			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-60V, V_{GS}=0V$			-1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$			± 100	nA
On Characteristics (1)						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1.5		-3.5	V
Drain-Source On-State Resistance	$R_{DS(ON)}$	$V_{GS}=-10V, I_D=-5A$			80	m Ω
Forward Transconductance	g_{FS}	$V_{DS}=-15V, I_D=-5A$	5			S
Dynamic Characteristics (2)						
Input Capacitance	C_{iss}	$V_{DS}=-20V, V_{GS}=0V,$ $f=1.0MHz$		1450		pF
Output Capacitance	C_{oss}			145		pF
Reverse Transfer Capacitance	C_{rss}			110		pF
Switching Characteristics (2)						
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=-30V, R_L=30\Omega$ $V_{GS}=-10V, R_{GEN}=6\Omega$		8		ns
Turn-on Rise Time	t_r			9		ns
Turn-Off Delay Time	$t_{d(off)}$			65		ns
Turn-Off Fall Time	t_f			30		ns
Total Gate Charge	Q_g	$V_{DS}=-30V, I_D=-5A,$ $V_{GS}=-10V$		26		nC
Gate-Source Charge	Q_{gs}			4.5		nC
Gate-Drain Charge	Q_{gd}			7		nC
Drain-Source Diode Characteristics						
Diode Forward Voltage (1)	V_{SD}	$V_{GS}=0V, I_S=-3A$			-1.2	V
Diode Forward Current (4)	I_S				-5	A

Notes:

1. Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
2. Guaranteed by design, not subject to production
3. Surface Mounted on FR4 Board, $t \leq 10$ sec.

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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