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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Micro Commercial Components



Micro Commercial Components
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MCQ4435

Features

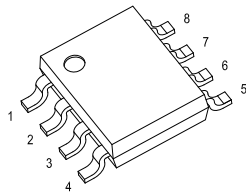
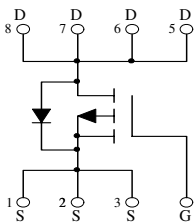
- Advanced trench MOSFET process technology
- Halogen free available upon request by adding suffix "-HF"
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking:Q4435

Maximum Ratings @ 25°C Unless Otherwise Specified

Symbol	Parameter	Rating	Unit
V_{DS}	Drain-source Voltage	-30	V
I_D	Drain Current-Continuous	-9.1	A
I_{DM}	Pulsed Drain Current	-36	A
V_{GS}	Gate-source Voltage	± 20	V
E_{AS}	Single Pulsed Avalanche Energy ⁽¹⁾	20	mJ
P_D	Power Dissipation	1.4	W
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	89	°C/W
T_J	Operating Junction Temperature	-55 to +150	°C
T_{STG}	Storage Temperature	-55 to +150	°C

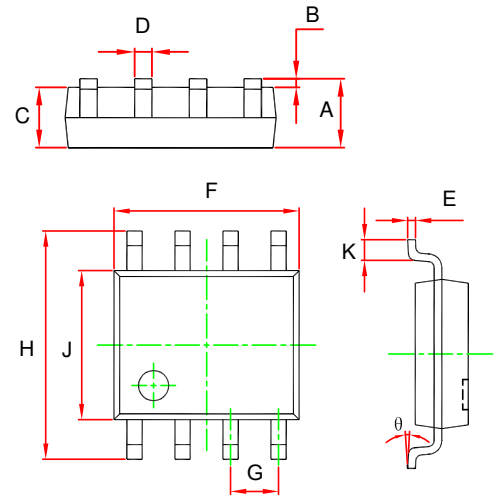
(1). E_{AS} condition: $V_{DD}=-50V, L=0.5mH, R_G=25\Omega$, Starting $T_J = 25^\circ C$

Equivalent Circuit



P-Channel Power 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	
θ	0°	8°	0°	8°	

ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise specified)

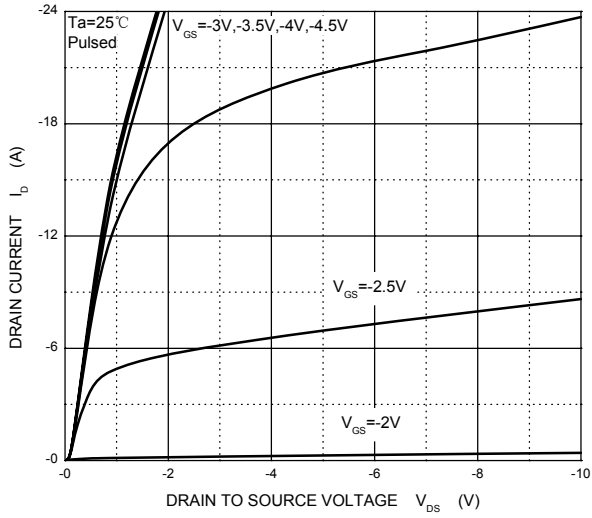
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-30			V
Zero gate voltage drain current	I _{DSS}	V _{DS} = -30V, V _{GS} = 0V			-1	μA
Gate-body leakage current	I _{GSS}	V _{DS} = 0V, V _{GS} = ±20V			±100	nA
On characteristics (note1)						
Gate-threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-1.0	-1.5	-3.0	V
Static drain-source on-state resistance	R _{DS(on)}	V _{GS} = -10V, I _D = -9.1A		14	24	mΩ
		V _{GS} = -4.5V, I _D = -6.9A		23	35	mΩ
Forward transconductance	g _{FS}	V _{DS} = -10V, I _D = -9.1A	20			S
Dynamic characteristics (note 2)						
Input capacitance	C _{ISS}	V _{DS} = -15V, V _{GS} = 0V, f = 1MHz		1350		pF
Output capacitance	C _{OSS}			215		
Reverse transfer capacitance	C _{RSS}			185		
Switching characteristics (note 2)						
Total gate charge	Q _g	V _{DS} = -15V, V _{GS} = -10V, I _D = -9.1A			50	nC
		V _{DS} = -15V, V _{GS} = -4.5V, I _D = -9.1A			25	
Gate-source charge	Q _{gs}	V _{DS} = -15V, V _{GS} = -4.5V, I _D = -9.1A		4		
Gate-drain charge	Q _{gd}			7.5		
Turn-on delay time	t _{d(on)}	V _{DD} = -15V, I _D = -1A, V _{GS} = -10V, R _G = 1Ω, R _L = 15Ω			15	ns
Turn-on rise time	t _r				15	
Turn-off delay time	t _{d(off)}				70	
Turn-off fall time	t _f				25	
Gate Resistance	R _g	f = 1MHz, V _{DS} = 0V, V _{GS} = 0V,		5.8		Ω
Drain-Source Diode Characteristics						
Drain-source diode forward voltage(note1)	V _{SD}	V _{GS} = 0V, I _S = -2A			-1.2	V
Continuous drain-source diode forward current	I _S				-9.1	A
Pulsed drain-source diode forward current	I _{SM}				-36	A

Notes:

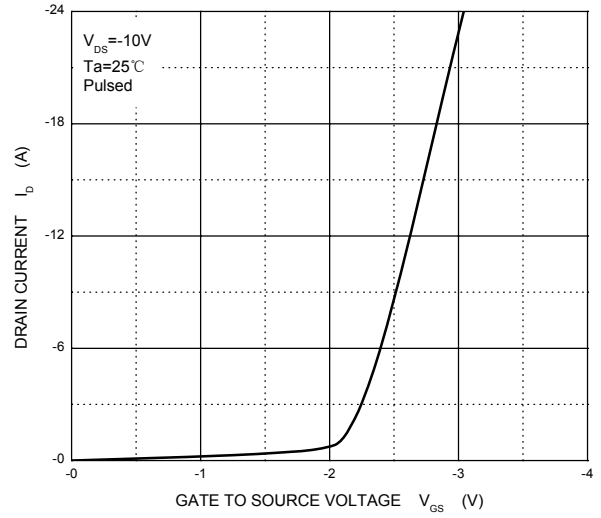
1. Pulse Test : Pulse Width ≤ 300μs, duty cycle ≤ 2%.
2. Guaranteed by design, not subject to production testing.

Typical Characteristics

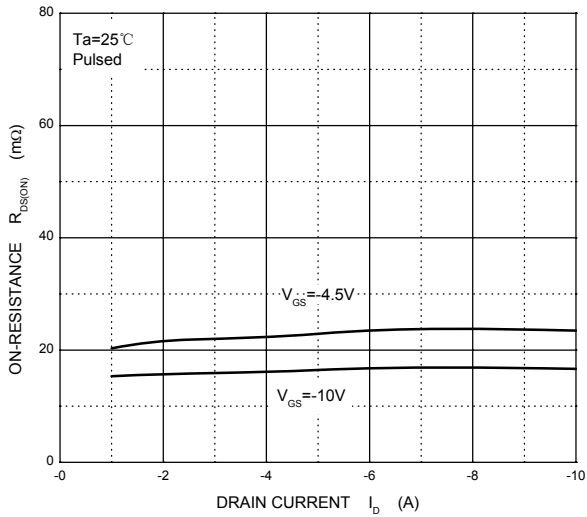
Output Characteristics



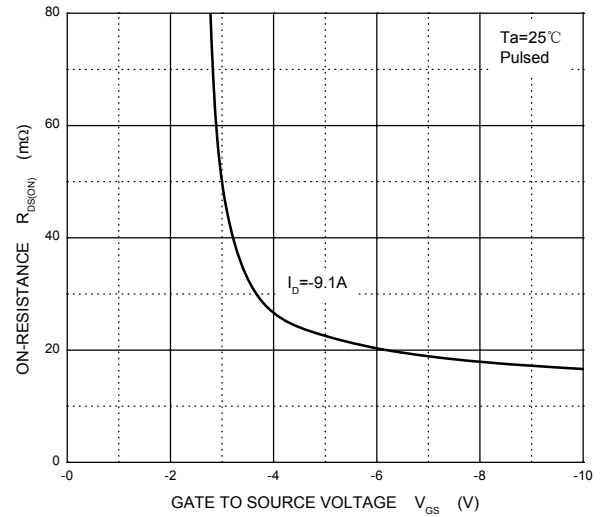
Transfer Characteristics



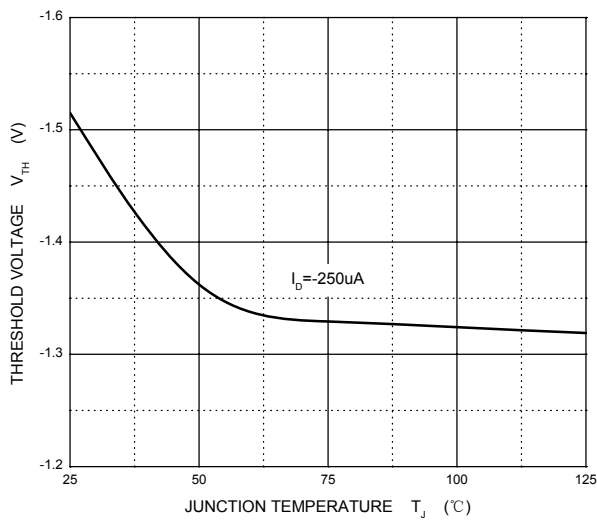
$R_{DS(ON)}$ — I_b



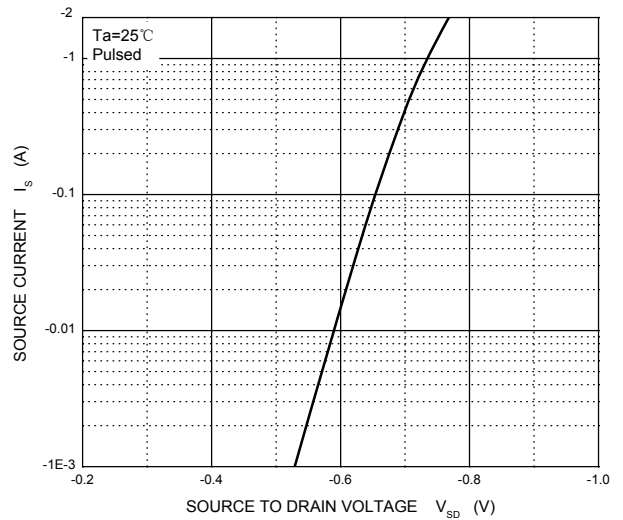
$R_{DS(ON)}$ — V_{GS}



Threshold Voltage



I_s — V_{SD}





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

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