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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.

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Micro Commercial Components



Micro Commercial Components
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MCQ9435

P-Channel Power MOSFET

Features

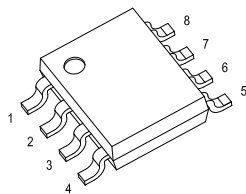
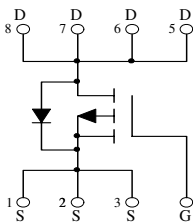
- Advanced trench MOSFET process technology
- Halogen free available upon request by adding suffix "-HF"
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking: Q9435

Maximum Ratings @ 25°C Unless Otherwise Specified

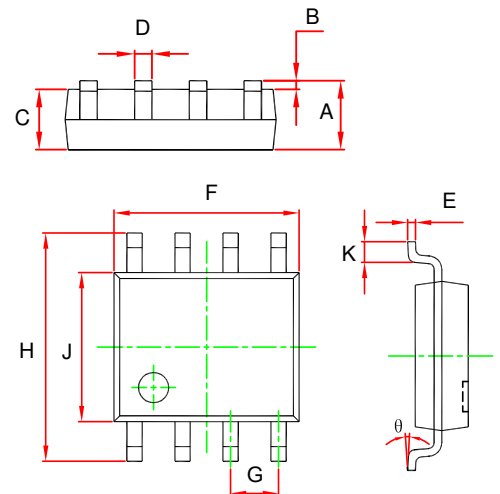
Symbol	Parameter	Rating	Unit
V_{DS}	Drain-source Voltage	-30	V
I_D	Drain Current-Continuous	-5.1	A
I_{DM}	Pulsed Drain Current	-20	A
V_{GS}	Gate-source Voltage	± 20	V
E_{AS}	Single Pulsed Avalanche Energy ⁽¹⁾	20	mJ
P_D	Power Dissipation	1.4	W
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	89	°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



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)

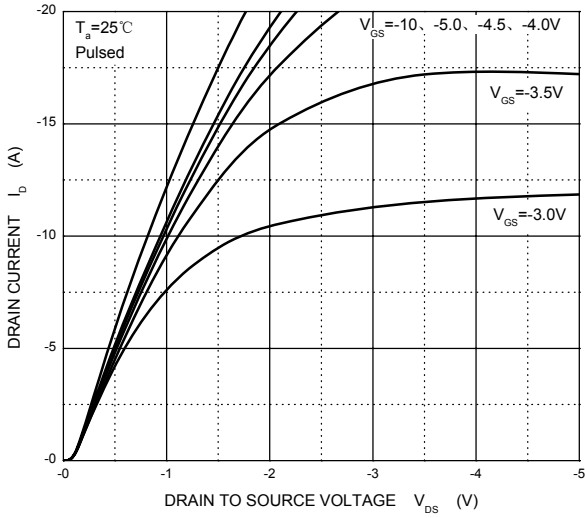
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-30			V
Zero gate voltage drain current	I _{DSS}	V _{DS} = -24V, V _{GS} = 0V			-1	μA
Gate-body leakage current	I _{GSS}	V _{DS} = 0V, V _{GS} = ±20V			±100	nA
On characteristics (note1)						
Gate-threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-1.0	-1.5	-2.0	V
Static drain-source on-state resistance	R _{DS(on)}	V _{GS} = -10V, I _D = -4.6A		50	60	mΩ
		V _{GS} = -6V, I _D = -4.1A		60	70	mΩ
		V _{GS} = -4.5V, I _D = -2A		65	105	mΩ
Forward transconductance	g _{FS}	V _{DS} = -15V, I _D = -4.6A	5			S
Switching characteristics (note 2)						
Total gate charge	Q _g	V _{DS} = -15V, V _{GS} = -10V, I _D = -4.6A			40	nC
Gate-source charge	Q _{gs}			4		
Gate-drain charge	Q _{gd}			6.3		
Turn-on delay time	t _{d(on)}	V _{DD} = -15V, I _D = -1A, V _{GS} = -10V, R _G = 6Ω, R _L = 15Ω			30	ns
Turn-on rise time	t _r				60	
Turn-off delay time	t _{d(off)}				120	
Turn-off fall time	t _f				100	
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 = -2.6A			-1.2	V
Continuous drain-source diode forward current	I _S				-5.1	A
Pulsed drain-source diode forward current	I _{SM}				-20	A

Notes:

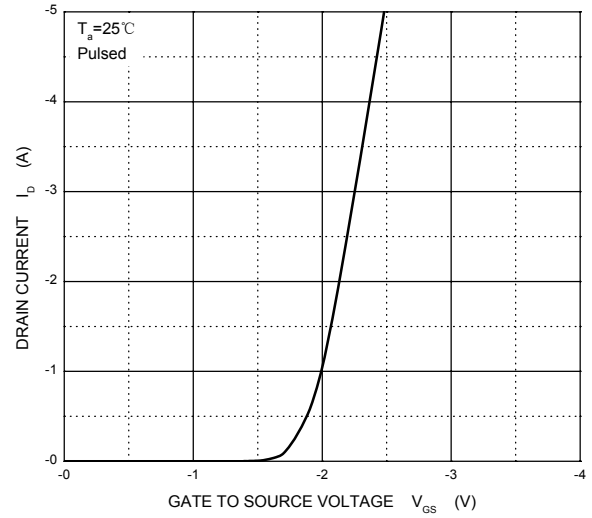
1. Pulse Test : Pulse Width ≤ 300μs, duty cycle ≤ 2%.
2. Guaranteed by design, not subject to production testing.

Typical Characteristics

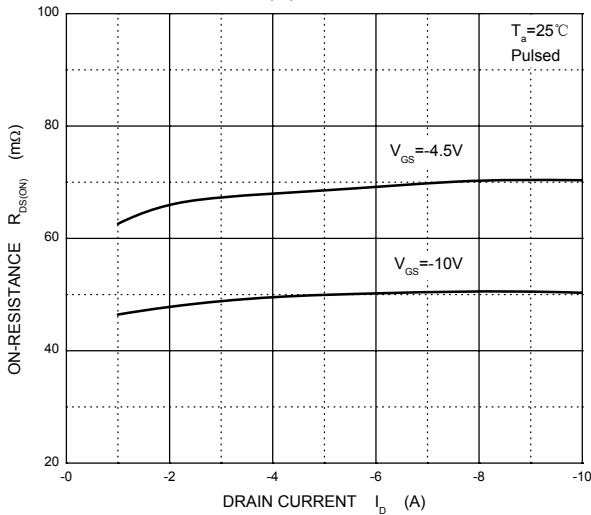
Output Characteristics



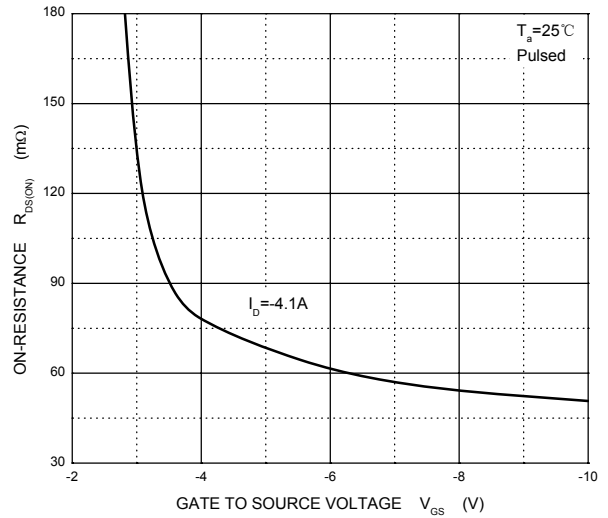
Transfer Characteristics



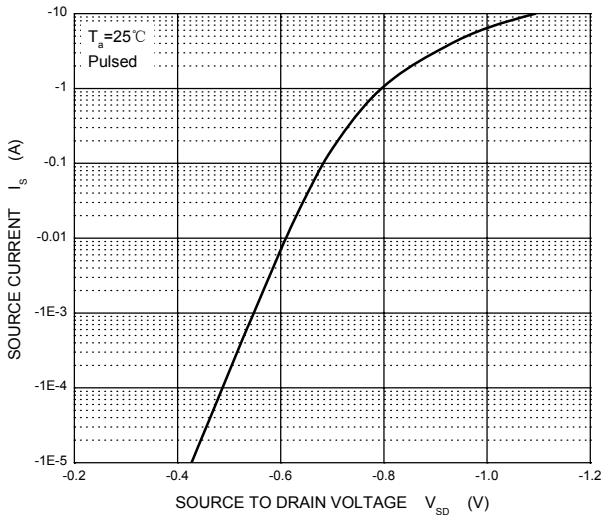
$R_{DS(ON)}$ — I_D



$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}





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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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