Micro Commercial Components

Micro Commercial Components
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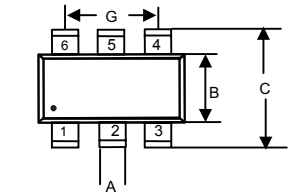
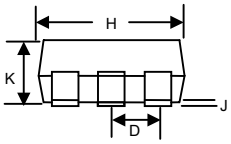
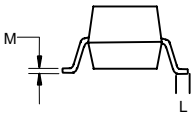
SIL2301

Dual P-Channel MOSFET

SOT23-6L







DIMENSIONS					
	INCHES		MM		
DIM	MIN	MAX	MIN	MAX	NOTE
A	.012	.020	0.30	0.50	
B	.051	.070	1.30	1.80	
C	.087	.126	2.20	3.20	
D	.037		0.95BSC		
G	.074		1.90BSC		
H	.106	.122	2.70	3.10	
J	.002	.006	0.05	0.15	
K	.035	.051	0.90	1.30	
L	.012	.024	0.30	0.60	
M	.003	.008	0.08	0.22	

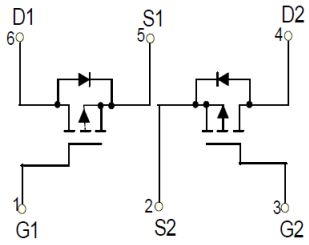
Features

- 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
- TrenchFET Power MOSFET
- Marking Code: S1/2301A

Maximum Ratings @ 25°C Unless Otherwise Specified

Symbol	Parameter	Rating	Unit
V_{DS}	Drain-source Voltage	-20	V
I_D	Drain Current-Continuous	-2.3	A
I_{DM}	Drain Current-Pulsed	-10	A
V_{GS}	Gate-source Voltage	± 8	V
P_D	Power Dissipation	0.35	W
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	357	℃/W
T_J	Operating Junction Temperature	-55 to +150	℃
T_{STG}	Storage Temperature	-55 to +150	℃

Equivalent Circuit



MOSFET ELECTRICAL CHARACTERISTICS (Ta=25℃ unless otherwise specified)

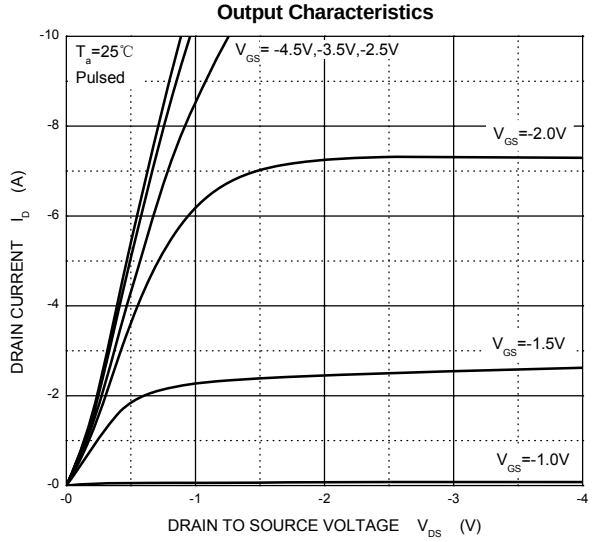
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC PARAMETERS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =-250μA	-20			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =-20V,V_{GS} = 0V			-1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±8V, V_{DS} = 0V			±100	nA
Gate threshold voltage (note 1)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-0.4	-0.7	-1	V
Drain-source on-resistance (note 1)	$R_{DS(on)}$	V_{GS} =-4.5V, I_D =-2.5A		58	90	mΩ
		V_{GS} =-2.5V, I_D =-2A		80	125	mΩ
		V_{GS} =-1.8V, I_D =-1.6A		120	200	mΩ
Forward tranconductance (note 1)	g_{FS}	V_{DS} =-5V, I_D =-2.8A	4			S
Diode forward voltage (note 1)	V_{DS}	I_S=-0.7A, V_{GS} = 0V			-1.2	V
DYNAMIC PARAMETERS (note2)						
Input Capacitance	C_{iss}	V_{DS} =-10V,V_{GS} =0V,f =1MHz		405		pF
Output Capacitance	C_{oss}			75		pF
Reverse Transfer Capacitance	C_{rss}			55		pF
SWITCHING PARAMETERS (note 2)						
Turn-on delay time	$t_{d(on)}$	V_{DD}=-10V,V_{GEN}=-4.5V,I_D=-1A R_L=10Ω,R_{GEN}=1Ω			20	ns
Turn-on rise time	t_r				60	ns
Turn-off delay time	$t_{d(off)}$				50	ns
Turn-off fall time	t_f				20	ns
Total Gate Charge (-4.5V)	Q_g	V_{DS} =-10V,V_{GS} =-2.5V,I_D=-3A		5.5	10	nC
Total Gate Charge (-2.5V)				3.3	6	nC
Gate-Source Charge	Q_{gs}			0.7		nC
Gate-Drain Charge	Q_{gd}			1.3		nC

Notes : 1. Pulse Test : Pulse width≤300μs, duty cycle≤0.5%.

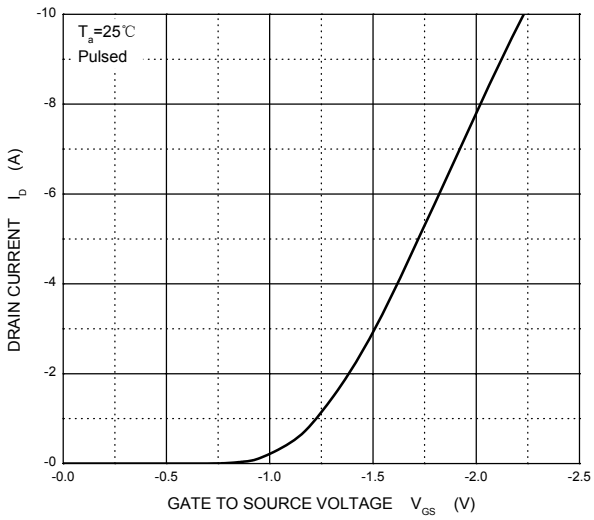
2. Guaranteed by design, not subject to production testing.

Typical characteristics

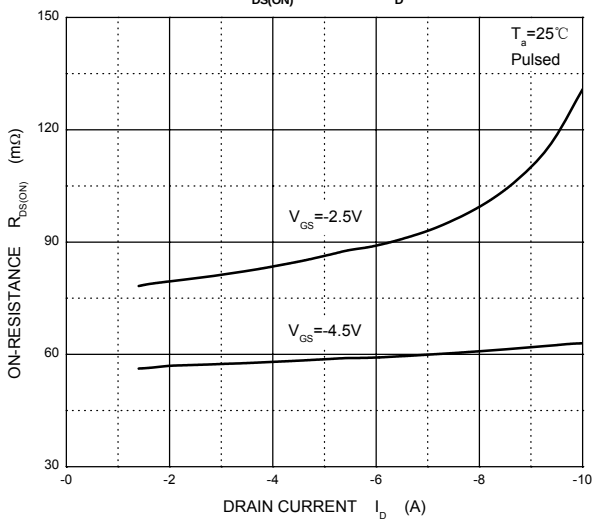
Output Characteristics



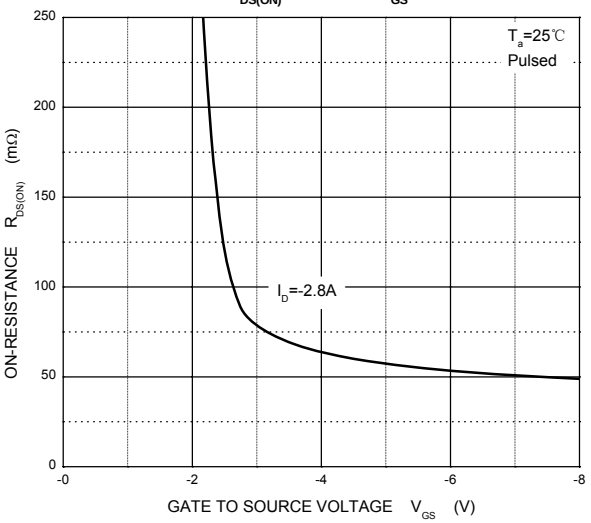
Transfer Characteristics



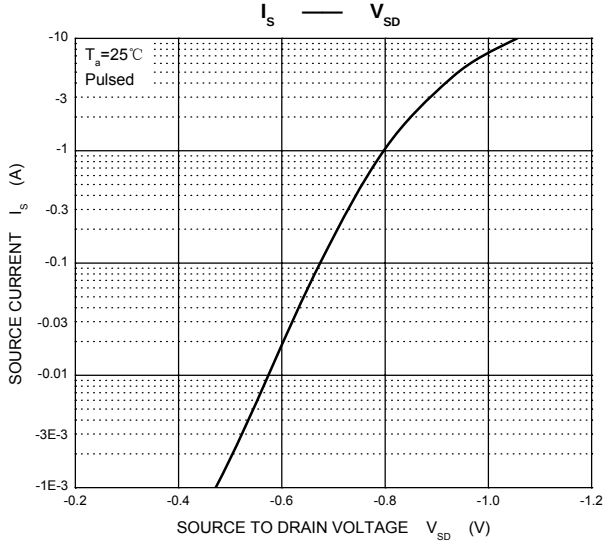
$R_{DS(ON)}$ —— I_D



$R_{DS(ON)}$ —— V_{GS}



I_S —— V_{SD}



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Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

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