



Micro Commercial Components



Micro Commercial Components  
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# SIL2301

## Dual P-Channel MOSFET

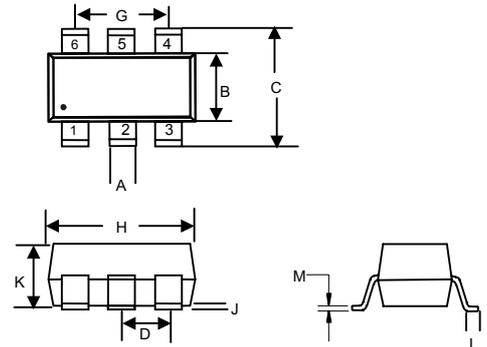
### Features

- 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

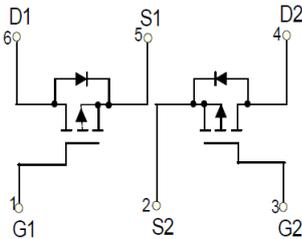
### Maximum Ratings @ 25°C Unless Otherwise Specified

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	$\pm 8$	V
$P_D$	Power Dissipation	0.35	W
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	357	$^{\circ}C/W$
$T_J$	Operating Junction Temperature	-55 to +150	$^{\circ}C$
$T_{STG}$	Storage Temperature	-55 to +150	$^{\circ}C$

### SOT23-6L



### Equivalent Circuit



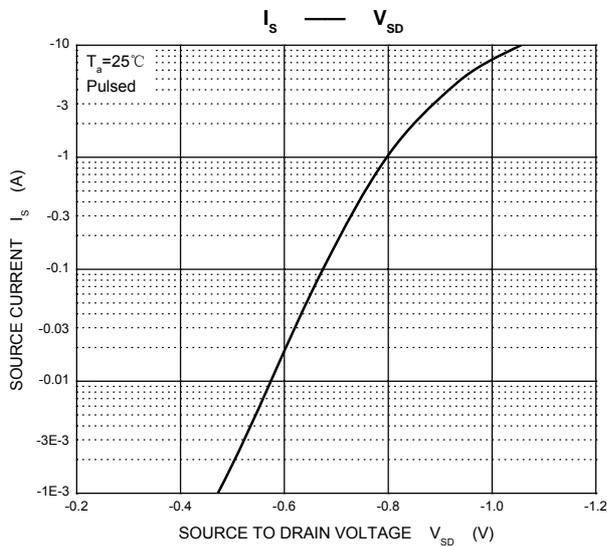
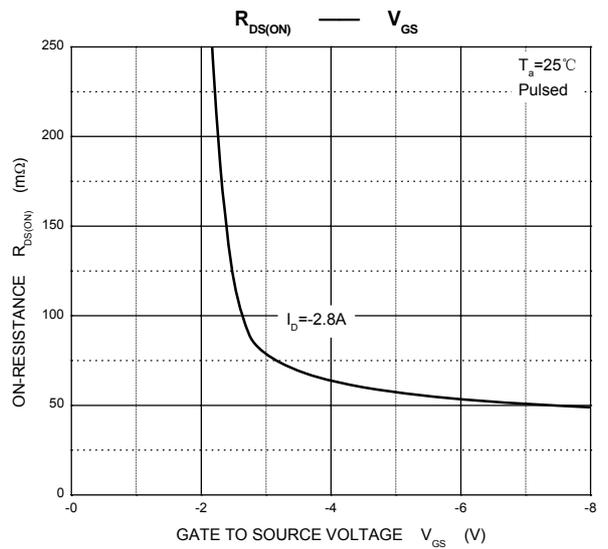
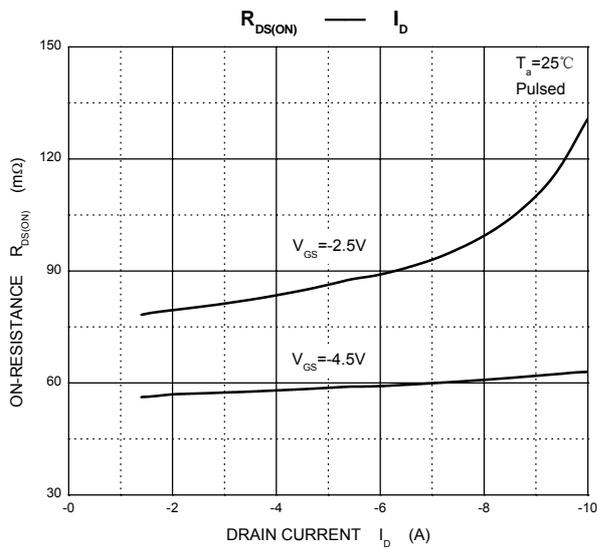
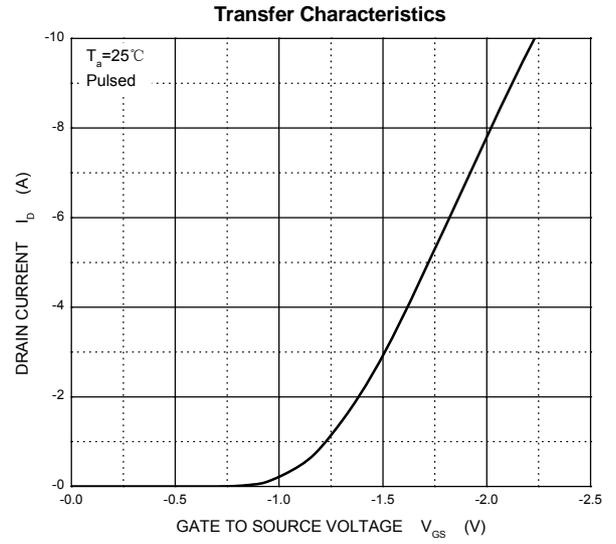
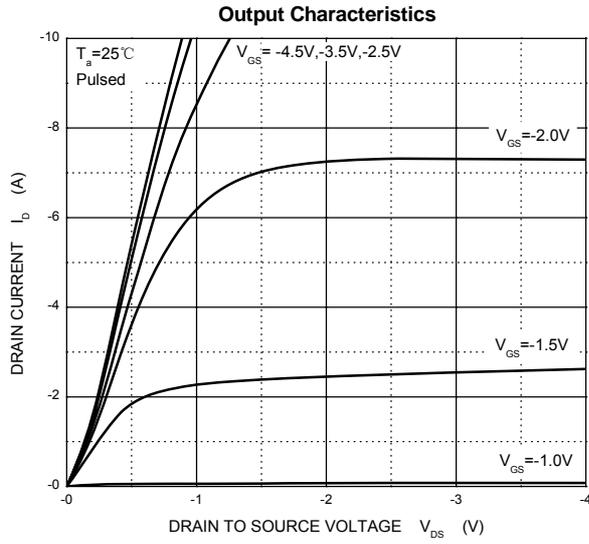
DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	.012	.020	0.30	0.50	
B	.051	.070	1.30	1.80	
C	.087	.126	2.20	3.20	
D	.037		0.95BSC		
G	.074		1.90BSC		
H	.106	.122	2.70	3.10	
J	.002	.006	0.05	0.15	
K	.035	.051	0.90	1.30	
L	.012	.024	0.30	0.60	
M	.003	.008	0.08	0.22	

**MOSFET ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)**

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>STATIC PARAMETERS</b>						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-20			V
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = -20V, V_{GS} = 0V$			-1	$\mu A$
Gate-body leakage current	$I_{GSS}$	$V_{GS} = \pm 8V, V_{DS} = 0V$			$\pm 100$	nA
Gate threshold voltage (note 1)	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-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	m $\Omega$
		$V_{GS} = -2.5V, I_D = -2A$		80	125	m $\Omega$
		$V_{GS} = -1.8V, I_D = -1.6A$		120	200	m $\Omega$
Forward transconductance (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
<b>DYNAMIC PARAMETERS (note2)</b>						
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
<b>SWITCHING PARAMETERS (note 2)</b>						
Turn-on delay time	$t_{d(on)}$	$V_{DD} = -10V, V_{GEN} = -4.5V, I_D = -1A$ $R_L = 10\Omega, R_{GEN} = 1\Omega$			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  $\leq 300\mu s$ , duty cycle  $\leq 0.5\%$ .
  2. Guaranteed by design, not subject to production testing.

# Typical characteristics





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### Ordering Information :

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

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