

### Features

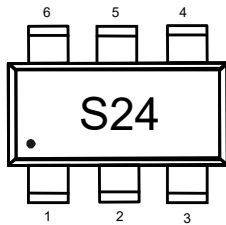
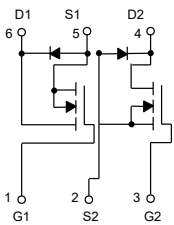
- TrenchFET Power MOSFET
- Low  $R_{DS(ON)}$
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

### Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 85°C/W Junction to Ambient

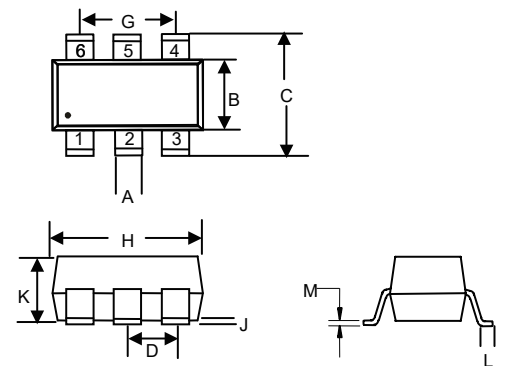
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	100	V
Gate-Source Voltage	$V_{GS}$	±20	V
Drain Current-Continuous	$I_D$	2.0	A
Power Dissipation	$P_D$	1.5	W

### Internal Structure and Marking Code



## N-Channel MOSFET

### SOT23-6L



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.012	0.020	0.30	0.50	
B	0.051	0.070	1.30	1.80	
C	0.087	0.126	2.20	3.20	
D	0.037		0.95		TYP.
G	0.074		1.90		TYP.
H	0.106	0.122	2.70	3.10	
J	0.002	0.006	0.05	0.15	
K	0.030	0.051	0.75	1.30	
L	0.012	0.024	0.30	0.60	
M	0.003	0.008	0.08	0.22	

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
<b>Static Characteristics</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	100			V
Gate-Threshold Voltage <sup>(Note1)</sup>	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1.0	1.5	2.0	V
Gate-Body Leakage Current	$I_{GSS}$	$V_{GS}=\pm 20V, V_{DS}=0V$			$\pm 100$	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=100V, V_{GS}=0V$			1	$\mu A$
Drain-Source On-Resistance <sup>(Note1)</sup>	$R_{DS(on)}$	$V_{GS}=10V, I_D=2.0A$		250	280	m $\Omega$
		$V_{GS}=4.5V, I_D=2.0A$		260	300	
Forward Transconductance	$g_{FS}$	$V_{DS}=5V, I_D=2.0A$	2.0			S
<b>Dynamic Characteristics<sup>(Note2)</sup></b>						
Input Capacitance	$C_{iss}$	$V_{DS}=15V, V_{GS}=0V, f=1MHz$		520		pF
Output Capacitance	$C_{oss}$			130		
Reverse Transfer Capacitance	$C_{rss}$			36		
<b>Switching Characteristics<sup>(Note2)</sup></b>						
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=10V, R_L=2.8\Omega, V_{GS}=4.5V, I_D=1A, R_{GEN}=6\Omega$		12		ns
Turn-On Rise Time	$t_r$			52		
Turn-Off Delay Time	$t_{d(off)}$			17		
Turn-Off Fall Time	$t_f$			10		
Total Gate Charge	$Q_g$	$V_{DS}=10V, V_{GS}=4.5V, I_D=2A$		4.8		nC
Gate-Source Charge	$Q_{gs}$			1.2		
Turn-Off Fall Time	$Q_{gd}$			1.7		
<b>Source-Drain Diode characteristics</b>						
Drain-Source Diode Forward Current	$I_S$				2.0	A
Diode Forward voltage	$V_{SD}$	$V_{GS}=0V, I_S=2A$		0.9	1.2	V

Notes:

1. Pulse Test: Pulse Width  $\leq 300\mu A$ , Duty Cycle  $\leq 2\%$ .
2. These parameters have no way to verify.

## Curve Characteristics

Fig. 1 - Output Characteristics

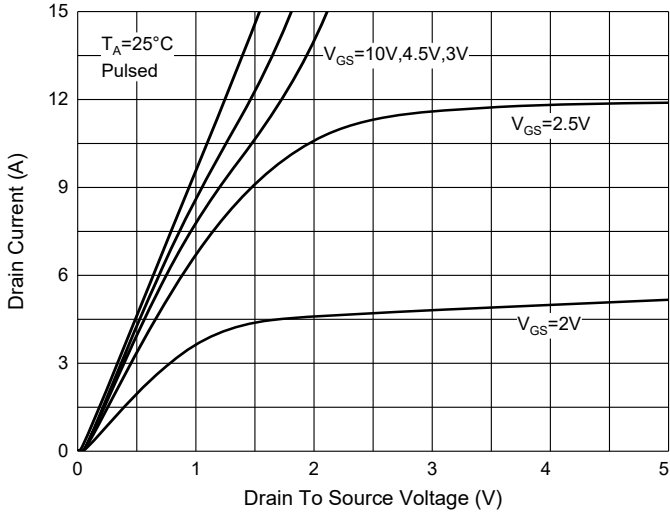


Fig. 2 - Transfer Characteristics

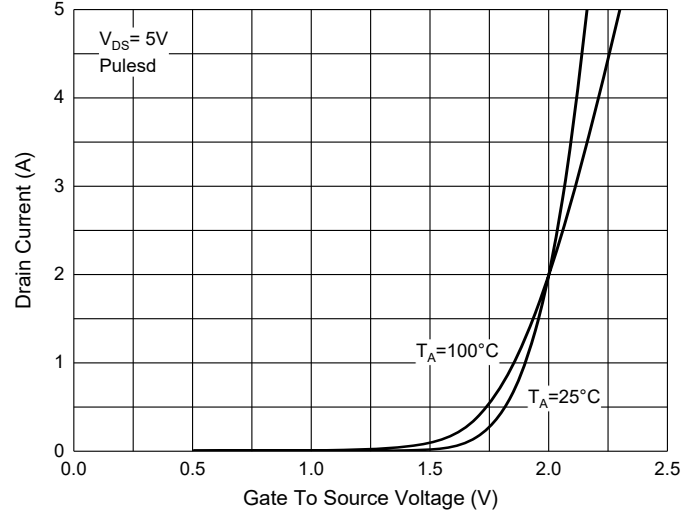


Fig. 3 -  $I_S - V_{SD}$

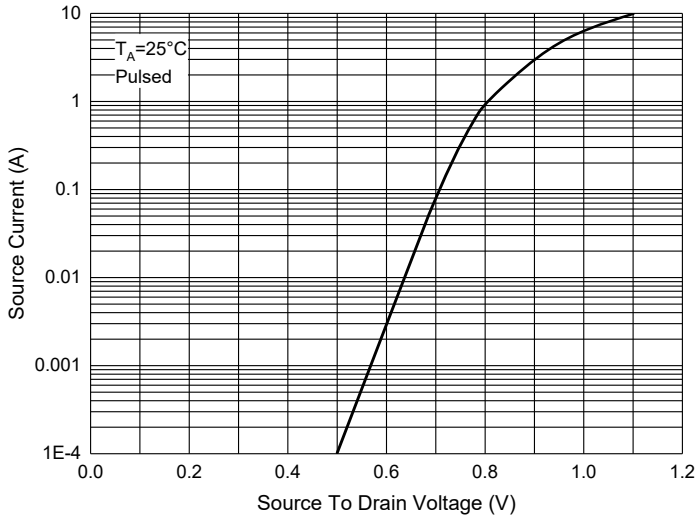
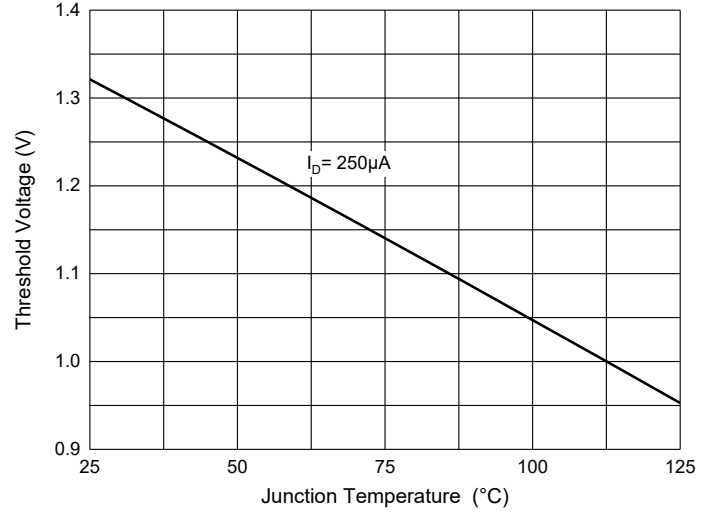


Fig. 4 - Threshold Voltage



## Ordering Information

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

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-TP-HF

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