

Features

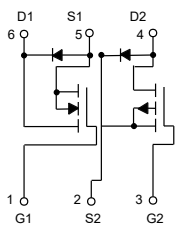
- High Density Cell Design for Low $R_{DS(on)}$
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 62.5°C/W Junction to Case

Parameter	Symbol	Rating	Unit
Total Power Dissipation	P_D	2	W
N-Channel			
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	5.8	A
P-Channel			
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	-4.1	A

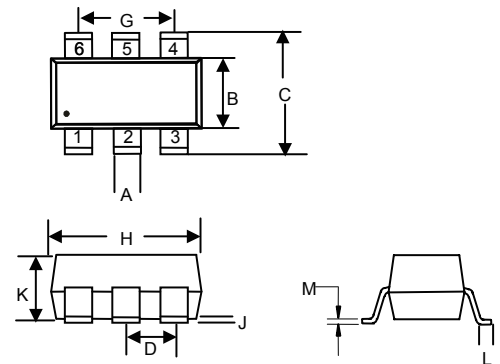
Internal Structure



Marking:3724

**Dual
N&P-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 @ 25°C (Unless Otherwise Specified)

N-Channel

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	30			V
Gate-Source Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V, V_{GS}=0V$			1	μA
Gate-Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1		2.5	V
Drain-Source On-Resistance ^(Note1)	$R_{DS(on)}$	$V_{GS}=10V, I_D=5.8A$		21	30	m Ω
		$V_{GS}=4.5V, I_D=4.8A$		27	42	
Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_S=1A$			1	V
Forward Transconductance ^(Note 1)	g_{FS}	$V_{DS}=5V, I_D=5.8A$	5			S
Dynamic Characteristics^(Note2)						
Input Capacitance	C_{iss}	$V_{DS}=15V, V_{GS}=0V, f=1MHz$			820	pF
Output Capacitance	C_{oss}			118		
Reverse Transfer Capacitance	C_{rss}			85		
Gate Resistance	R_g	$V_{DS}=0V, V_{GS}=0V, f=1MHz$			1.5	Ω
Switching Characteristics^(Note2)						
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V, V_{DS}=15V, R_L=2.6\Omega, R_{GEN}=3\Omega$			6.5	ns
Turn-On Rise Time	t_r			3.1		
Turn-Off Delay Time	$t_{d(off)}$			15.1		
Turn-Off Fall Time	t_f			2.7		

Electrical Characteristics @ 25°C (Unless Otherwise Specified)
P-Channel

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-30			V
Gate-Source Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-24V, V_{GS}=0V$			-1	μA
Gate-Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1		-2.2	V
Drain-Source On-Resistance ^(Note1)	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-4.1A$		45	60	m Ω
		$V_{GS}=-4.5V, I_D=-3A$		59	80	
Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_S=-1A$			-1	V
Forward Transconductance ^(Note 1)	g_{FS}	$V_{DS}=-5V, I_D=-4A$	5.5			S
Dynamic Characteristics^(Note2)						
Input Capacitance	C_{iss}	$V_{DS}=-15V, V_{GS}=0V, f=1MHz$		700		pF
Output Capacitance	C_{oss}			120		
Reverse Transfer Capacitance	C_{rss}			75		
Switching Characteristics^(Note2)						
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=-10V, V_{DS}=-15V, R_L=3.6\Omega, R_{GEN}=3\Omega$		8.6		ns
Turn-On Rise Time	t_r			5		
Turn-Off Delay Time	$t_{d(off)}$			28.2		
Turn-Off Fall Time	t_f			13.5		

 Note: 1. Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

2. Guaranteed by Design, Not Subject to Production Testing.

Curve Characteristics(N-Channel)

Fig. 1 - Output Characteristics

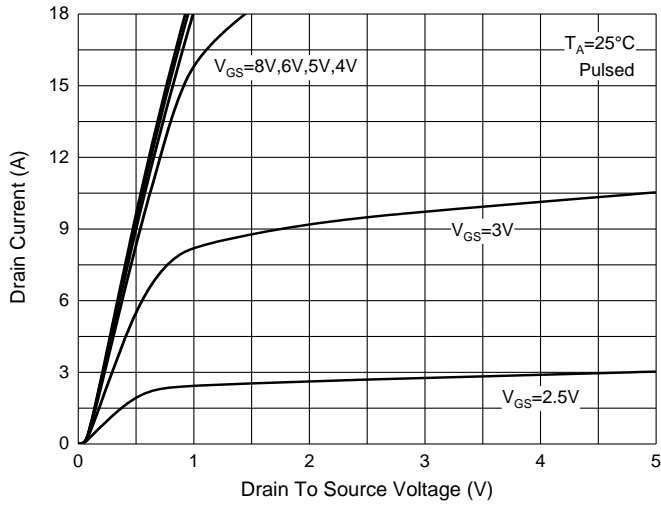


Fig. 2 - Transfer Characteristics

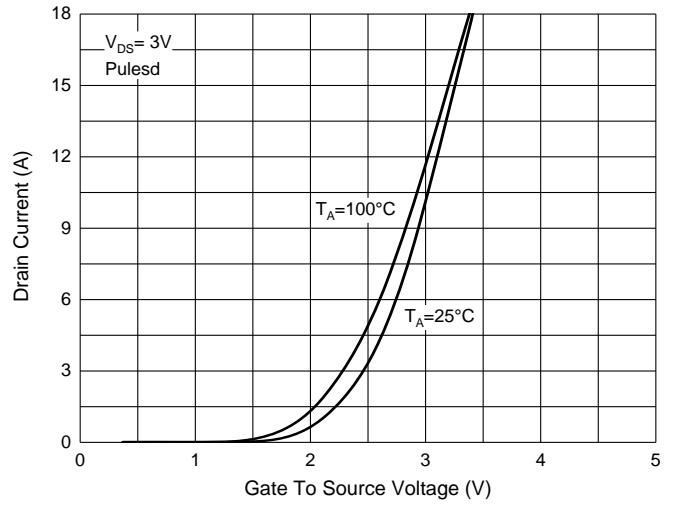


Fig. 3 - $R_{DS(ON)} - I_D$

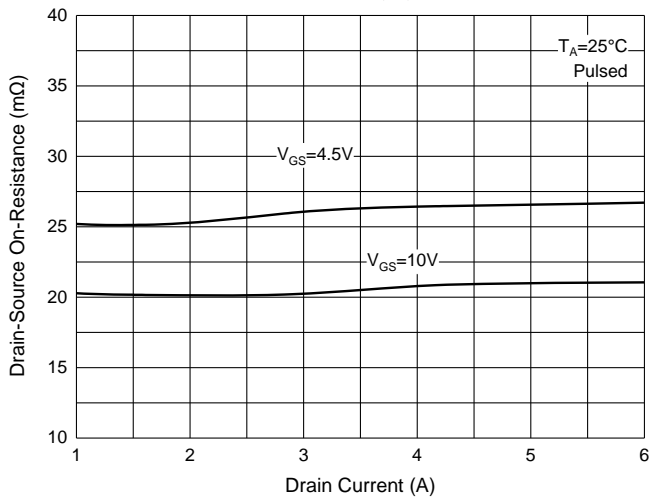


Fig. 4 - $R_{DS(ON)} - V_{GS}$

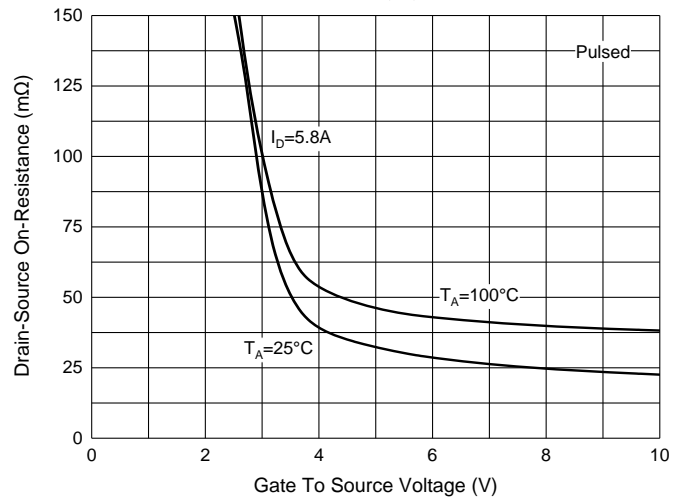


Fig. 5 - $I_S - V_{SD}$

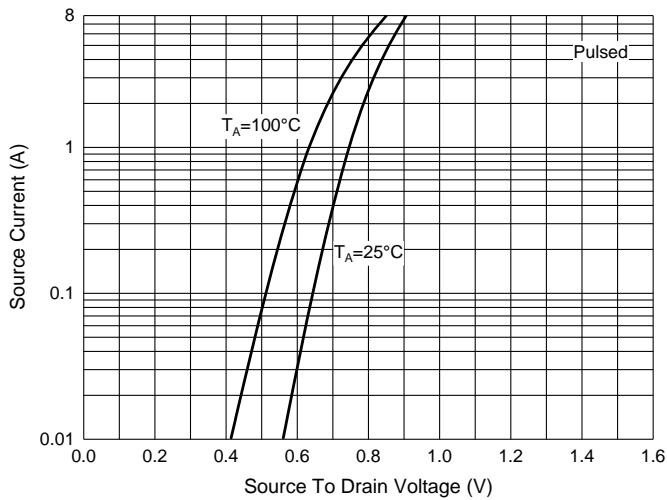
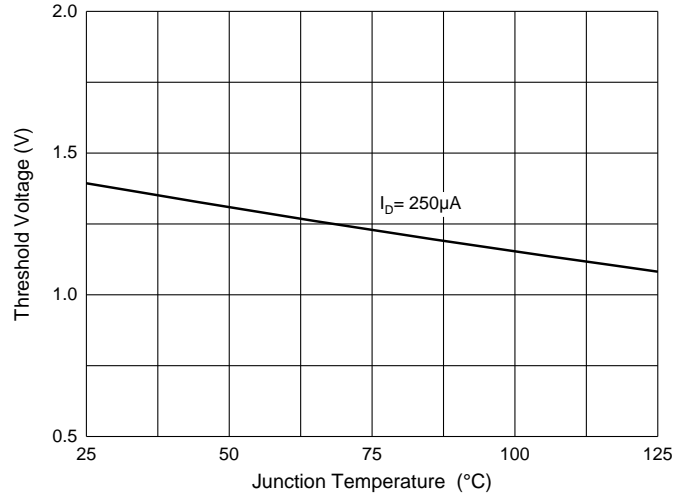
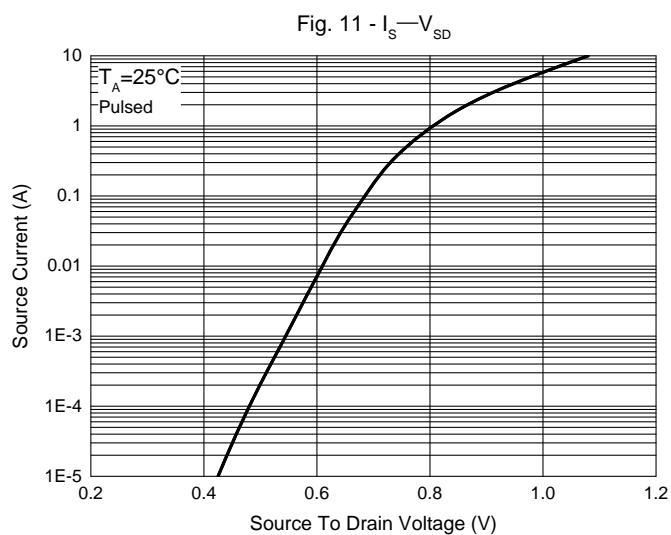
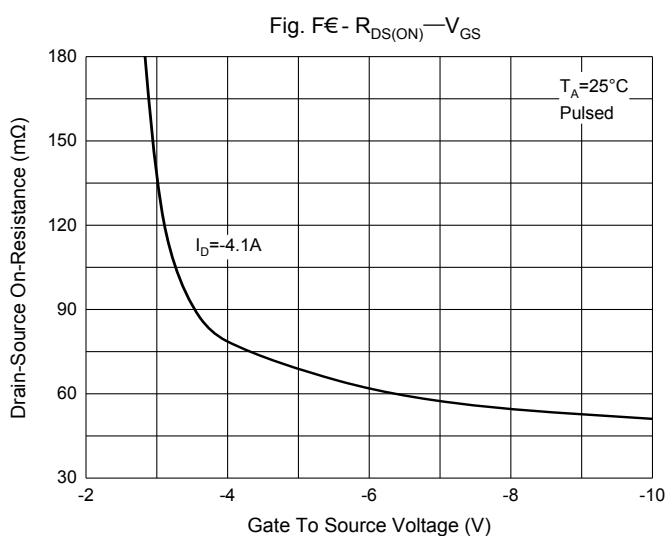
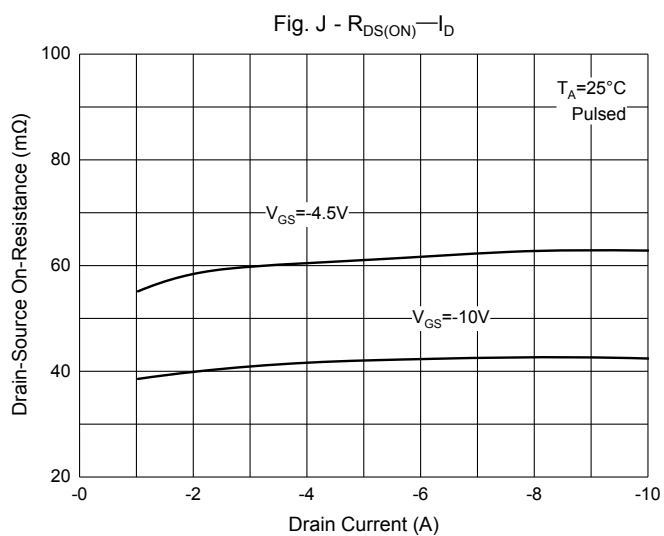
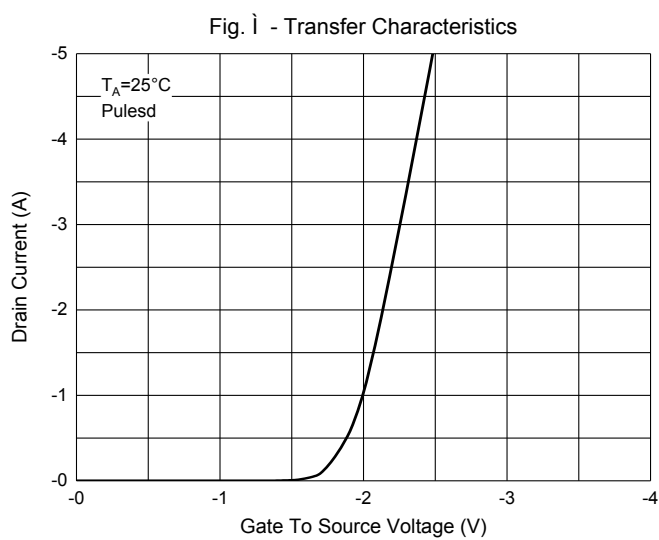
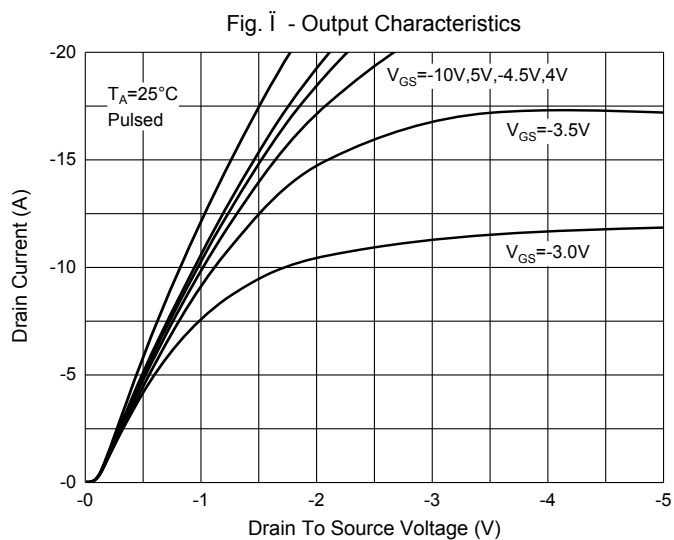


Fig. 6 - Threshold Voltage



Curve Characteristics(P-Channel)



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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