Features

- Operated at Low Logic Level Gate Drive
- N-Channel Switch with Low $R_{DS(on)}$
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free. “Green” Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

N-Channel MOSFET

Maximum Ratings

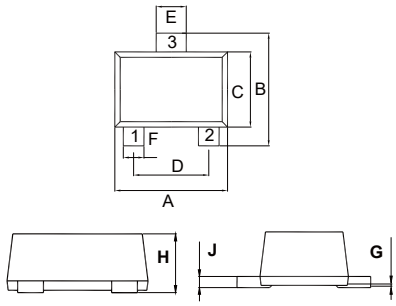
- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Maximum Thermal Resistance: 238°C/W Junction to Ambient(Note2)

Parameter	Symbol	Rating	Unit
Drain -source Voltage	V_{DS}	20	V
Gate -Source Voltage	V_{GS}	±12	V
Drain Current-Continuous	I_D	0.75	A
Pulsed Drain Current	I_{DM}	1.8	A
Power Dissipation	P_D	0.5	W

Note: 1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

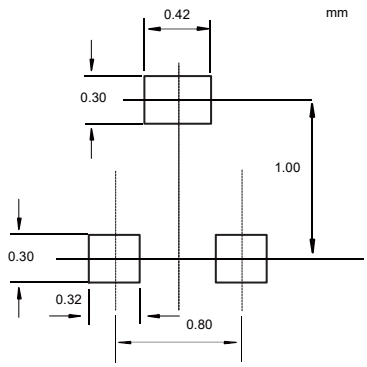
2. Device mounted on 1” x 1” FR-4 PCB with high coverage 2oz. Copper, single sided.

SOT-723

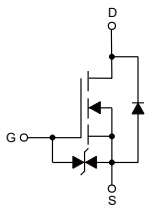


DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.043	0.051	1.10	1.30	
B	0.043	0.051	1.10	1.30	
C	0.028	0.035	0.70	0.90	
D	0.031		0.80		TYP.
E	0.009	0.017	0.22	0.42	
F	0.005	0.013	0.12	0.32	
G	0.000	0.002	0.00	0.05	
H	0.017	0.021	0.43	0.54	
J	0.003	0.006	0.08	0.15	

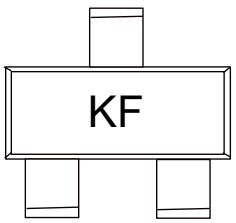
Suggested Solder Pad Layout



Internal Structure and Marking Code



1. GATE
2. SOURCE
3. DRAIN



ELECTRICAL CHARACTERISTICS (Ta=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=250μA	20			V
Gate-Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	0.35		1.0	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =20V, V_{GS} =0V,T_a=25℃			1.0	μA
		V_{DS} =20V, V_{GS} =0V,T_a=125℃			2.0	
Gate-body Leakage Current	I_{GSS}	V_{GS} =± 10V, V_{DS} =0V			±10	μA
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=4.5V, I_D=650mA			0.38	Ω
		V_{GS}=2.5V, I_D=550mA			0.45	
		V_{GS}=1.8V, I_D=450mA			0.80	
Forward transconductance	g_{FS}	V_{DS}=10V, I_D=800mA		1.6		S
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_S=150mA			1.2	V
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}=16V,V_{GS}=0V, f=1MHz		79	120	pF
Output Capacitance	C_{oss}			13	20	
Reverse Transfer Capacitance	C_{rss}			9	15	
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	V_{DS}=10V,V_{GS}=4.5V,I_D=500 mA, R_{GEN}=10Ω		6.7		ns
Rise Time	t_r			4.8		
Turn-off Delay Time	$t_{d(off)}$			17.3		
Fall Time	t_f			7.4		

Curve Characteristics

Fig. 1 - Typical Output Characteristics

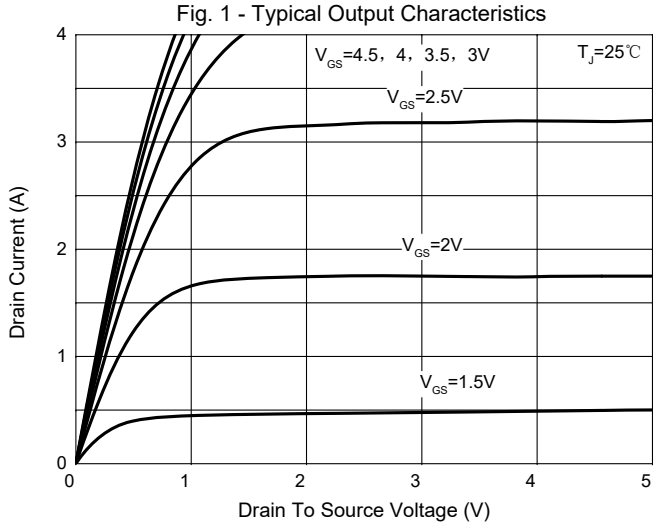


Fig. 2 - Transfer Characteristics

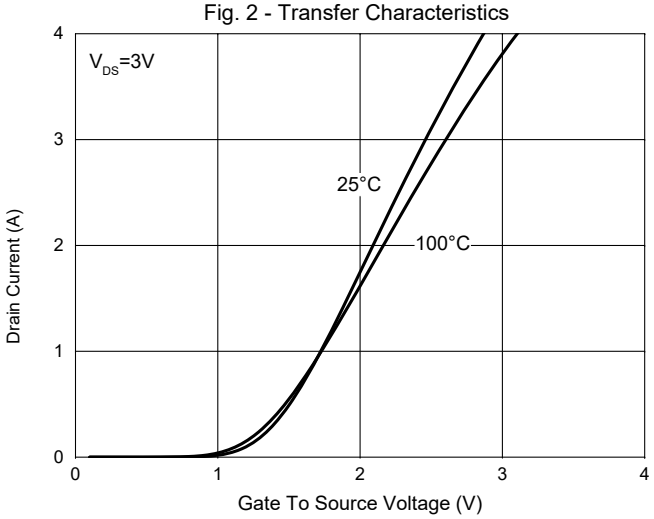


Fig. 3 - $R_{DS(ON)}$—I_D

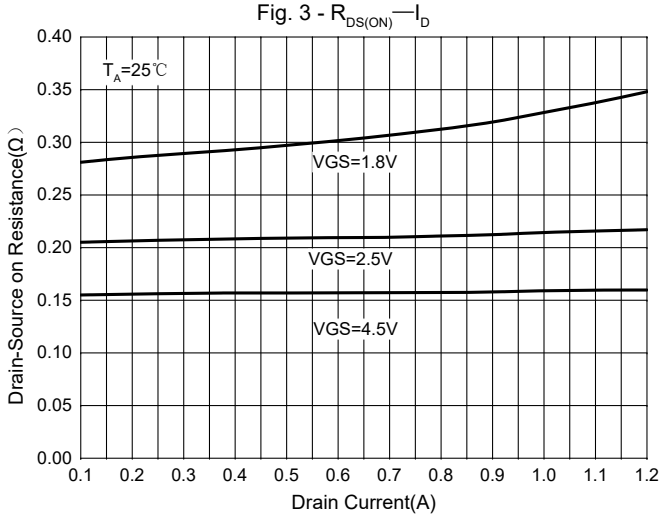


Fig. 4 - $R_{DS(ON)}$—V_{GS}

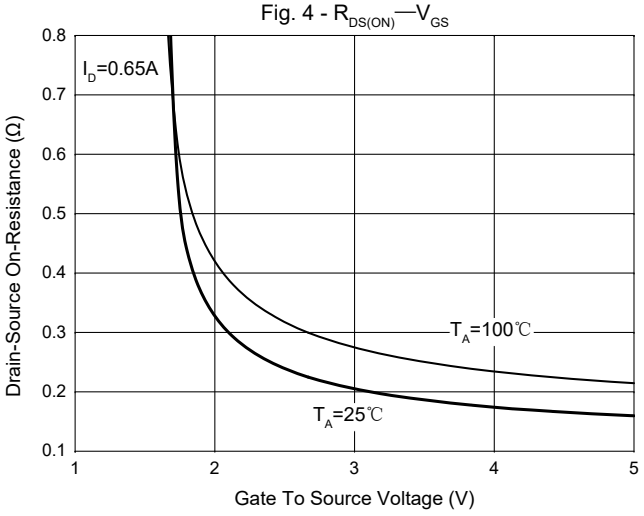


Fig. 5 - I_S—V_{SD}

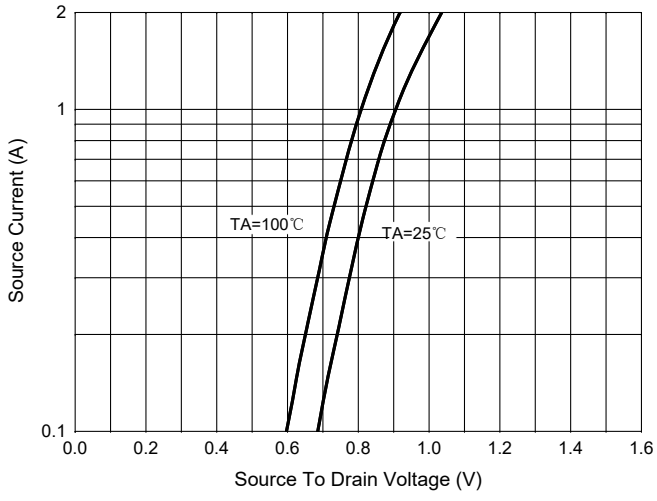
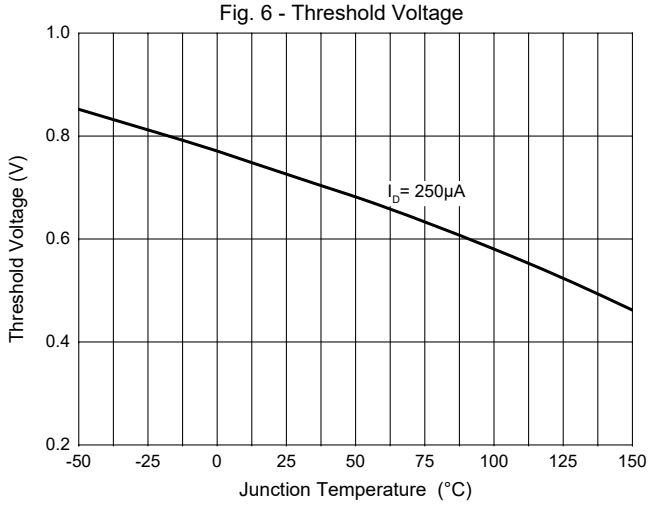


Fig. 6 - Threshold Voltage



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:8Kpcs/Reel