

## Features

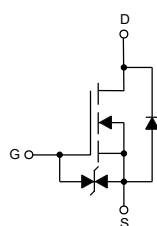
- Low On-resistance
- Fast Switching Speed
- Drive Circuits Can be Simple
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

## Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Thermal Resistance: 833 °C/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	30	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Drain Current-Continuous	$I_D$	0.1	A
Power Dissipation	$P_D$	0.15	W

## Internal Structure

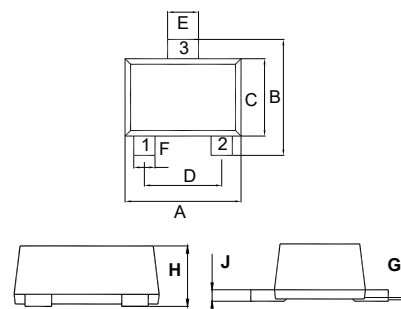


1. GATE
2. SOURCE
3. DRAIN

**Marking: KN**

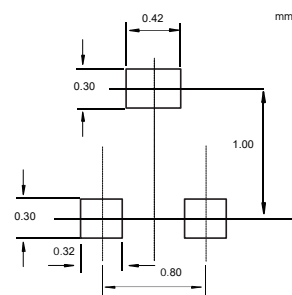
# N-Channel MOSFET

## SOT-723



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



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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> =0V, I <sub>D</sub> =10μA	30			V
Gate-Source Leakage Current	I <sub>GSS</sub>	V <sub>DS</sub> =0V, V <sub>GS</sub> =±20V			±2	μA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =30V, V <sub>GS</sub> =0V			1	μA
Gate-Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =3V, I <sub>D</sub> =100μA	0.8		1.5	V
Drain-Source On-Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> =4.0V, I <sub>D</sub> =10mA		5	8	Ω
		V <sub>GS</sub> =2.5V, I <sub>D</sub> =55mA		7	13	Ω
Forward Tranconductance	g <sub>FS</sub>	V <sub>DS</sub> =3V, I <sub>D</sub> =10mA	20			mS
Dynamic Characteristics						
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =5V, V <sub>GS</sub> =0V, f = 1MHz		13		pF
Output Capacitance	C <sub>oss</sub>			9		pF
Reverse Transfer Capacitance	C <sub>rss</sub>			4		pF
Switching Characteristics						
Turn-On Delay Time	t <sub>d(on)</sub>	V <sub>GS</sub> =5V, V <sub>DD</sub> =5V, I <sub>D</sub> =10mA, R <sub>L</sub> =500Ω, R <sub>G</sub> =10Ω,		15		ns
Turn-Off Delay Time	t <sub>d(off)</sub>			80		ns
Turn-on Rise Time	t <sub>r</sub>			35		ns
Turn-off Fall Time	t <sub>f</sub>			80		ns

## Curve Characteristics

Fig. 1 - Output Characteristics

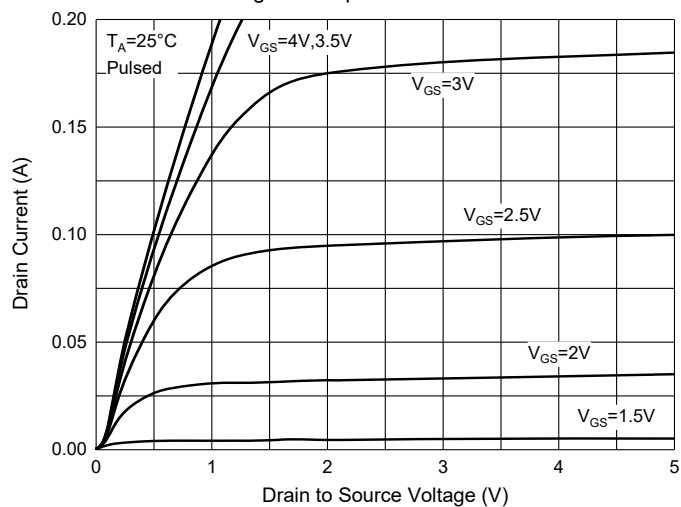


Fig. 2 - Transfer Characteristics

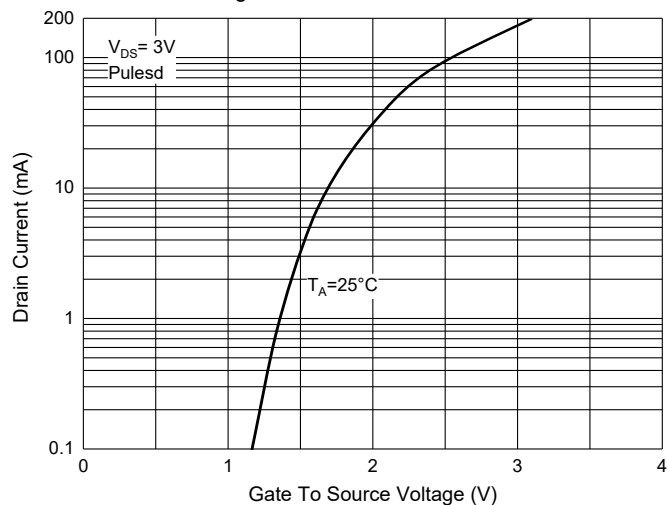


Fig. 3 -  $R_{DS(ON)} - I_D$

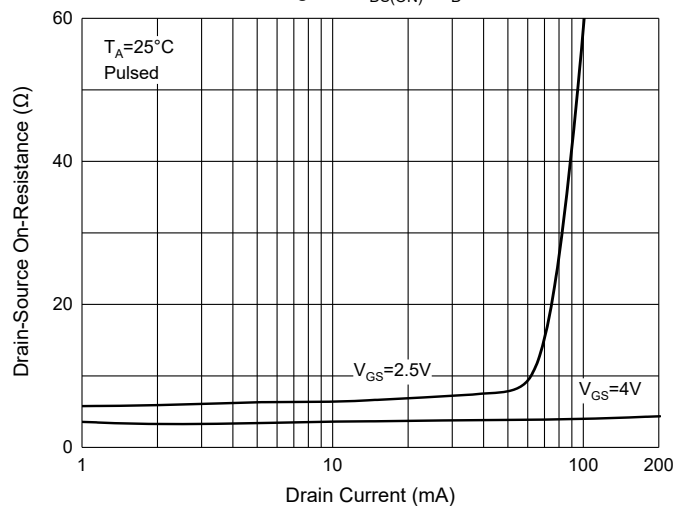


Fig. 4 -  $R_{DS(ON)} - V_{GS}$

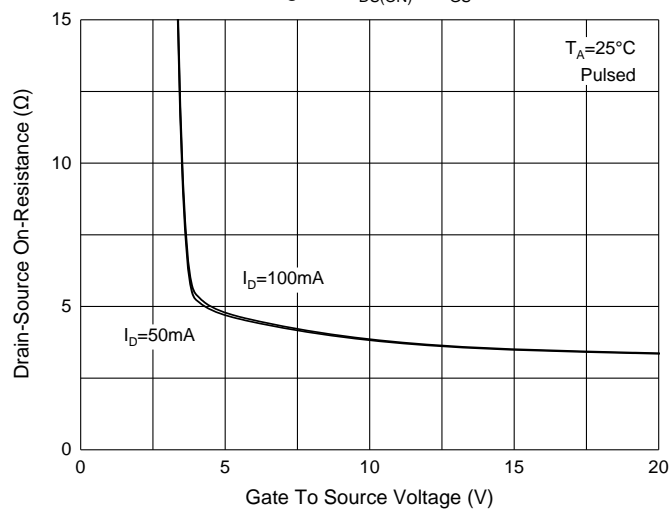
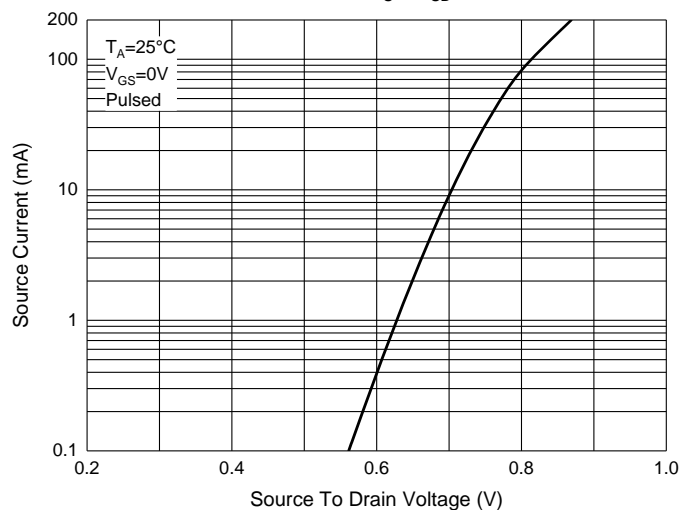


Fig. 5 -  $I_S - V_{SD}$



## Ordering Information

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

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

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