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)

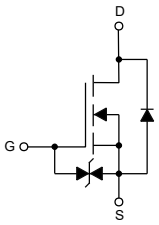
N-Channel MOSFET

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}	±20	V
Drain Current-Continuous	I_D	0.1	A
Power Dissipation	P_D	0.15	W

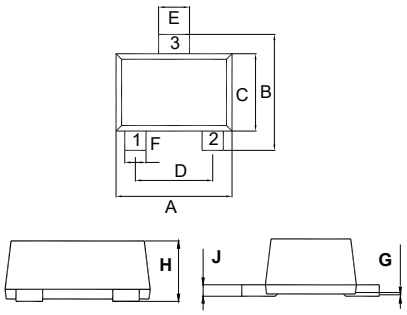
Internal Structure



1. GATE
2. SOURCE
3. DRAIN

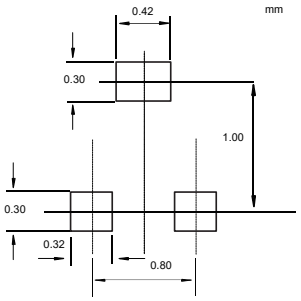
Marking: KN

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



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=10μA	30			V
Gate-Source Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±20V			±2	μA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=30V, V_{GS}=0V			1	μA
Gate-Threshold Voltage	$V_{GS(th)}$	V_{DS}=3V, I_D=100μA	0.8		1.5	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=4.0V, I_D=10mA		5	8	Ω
		V_{GS}=2.5V, I_D=55mA		7	13	Ω
Forward Tranconductance	g_{FS}	V_{DS}=3V, I_D=10mA	20			mS
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}=5V,V_{GS}=0V,f =1MHz		13		pF
Output Capacitance	C_{oss}			9		pF
Reverse Transfer Capacitance	C_{rss}			4		pF
Switching Characteristics						
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=5V, V_{DD}=5V, I_D=10mA, R_L=500Ω,R_G=10Ω,		15		ns
Turn-Off Delay Time	$t_{d(off)}$			80		ns
Turn-on Rise Time	t_r			35		ns
Turn-off Fall Time	t_f			80		ns

Curve Characteristics

Fig. 1 - Output Characteristics

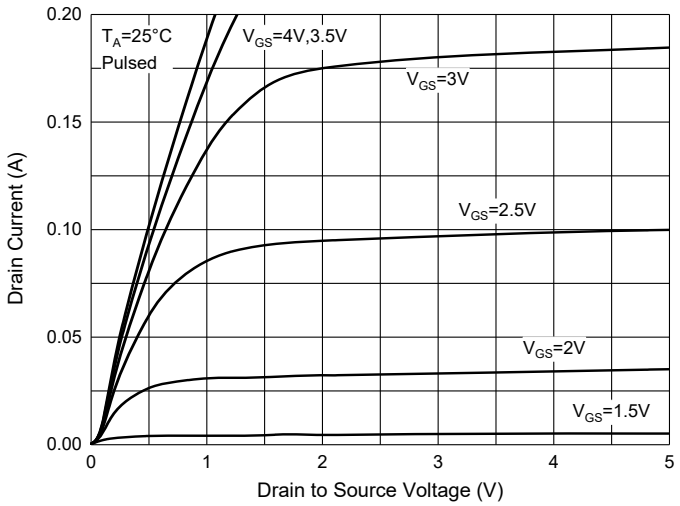


Fig. 2 - Transfer Characteristics

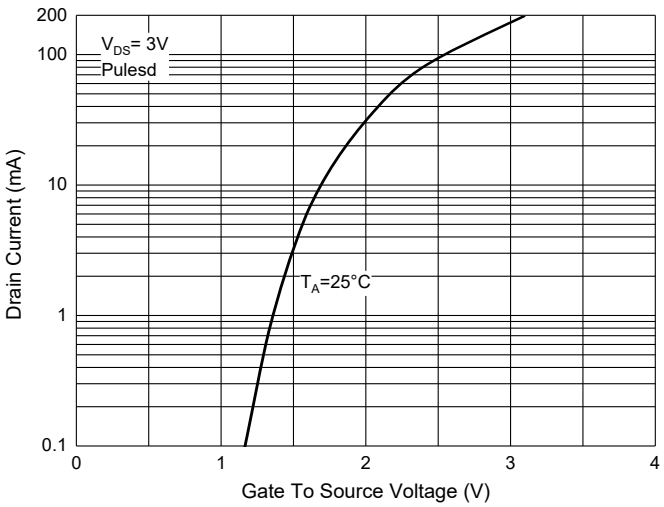


Fig. 3 - $R_{DS(ON)}$—I_D

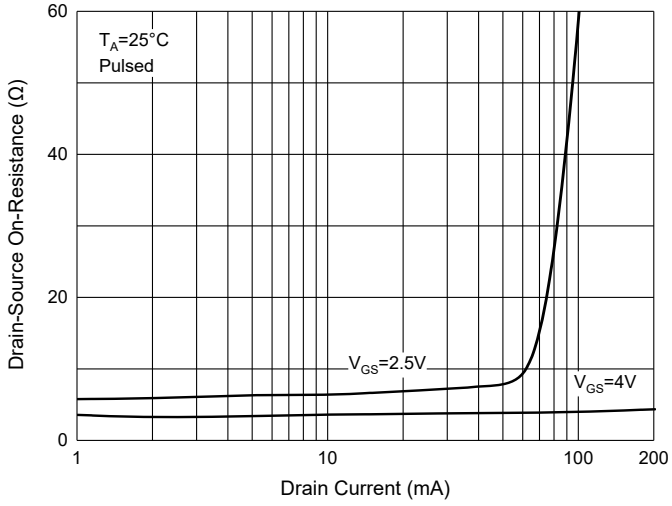


Fig. 4 - $R_{DS(ON)}$—V_{GS}

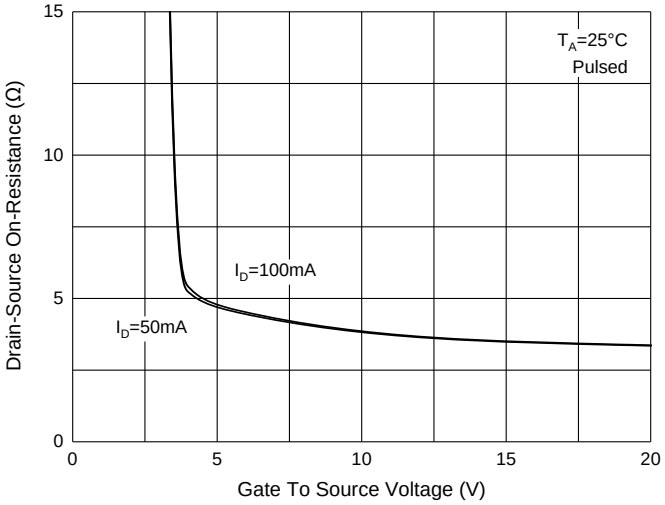
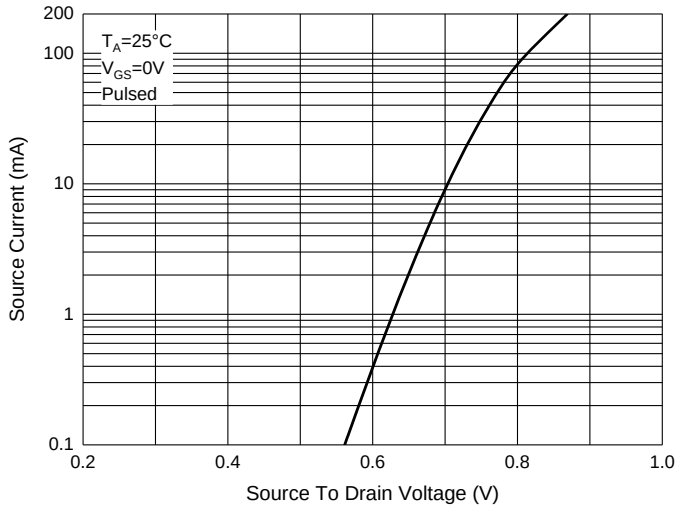


Fig. 5 - I_S—V_{SD}



Ordering Information

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

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