

Features

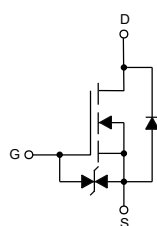
- Low On-resistance
- Fast Switching Speed
- Drive Circuits Can be Simple
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

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

Internal Structure

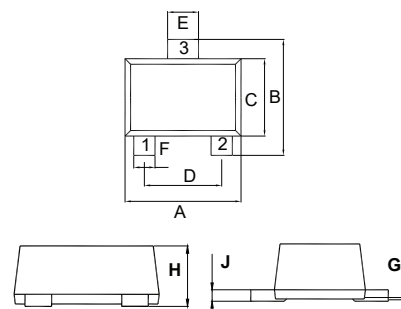


1. GATE
2. SOURCE
3. DRAIN

Marking: KN

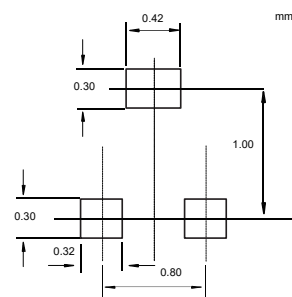
N-Channel MOSFET

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 _{(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	0.5		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

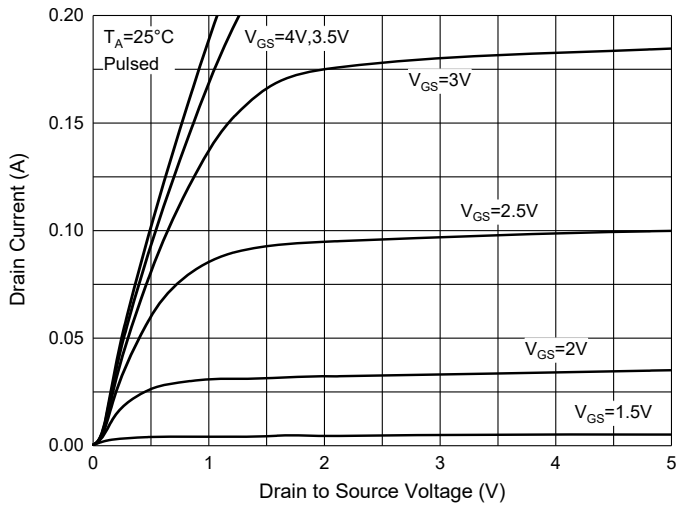


Fig. 2 - Transfer Characteristics

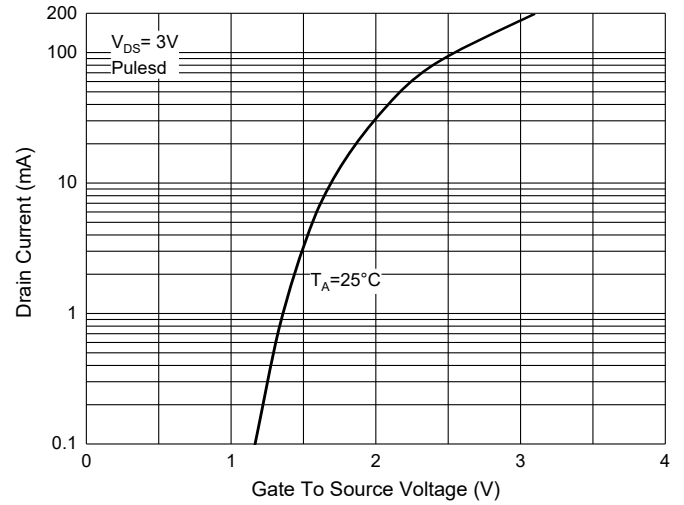


Fig. 3 - $R_{DS(ON)} - I_D$

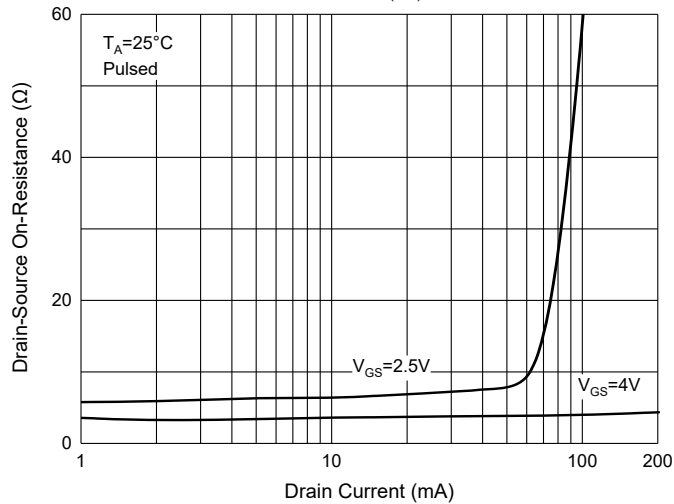


Fig. 4 - $R_{DS(ON)} - V_{GS}$

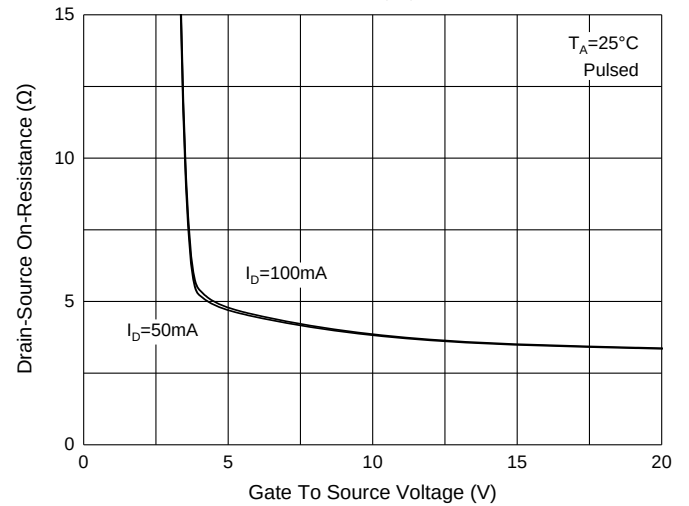
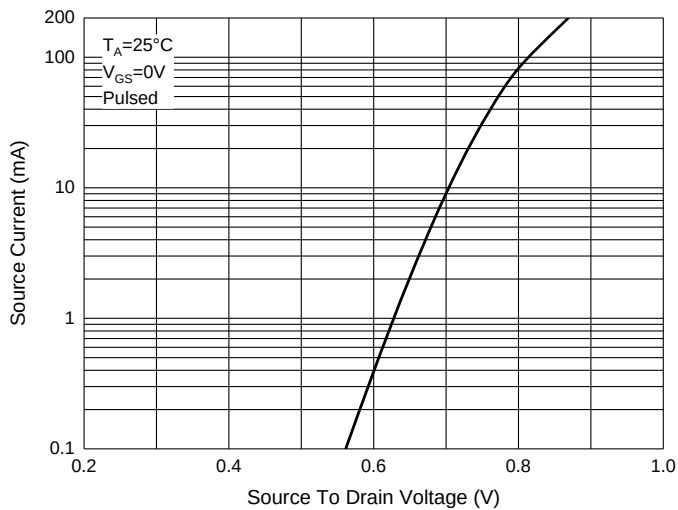


Fig. 5 - $I_S - V_{SD}$



Ordering Information

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

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

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