Features

- Low Gate Threshold Voltage
- Low Input Capacitance
- Low On-Resistance
- 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)

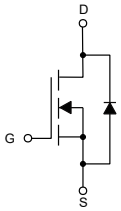
N-Channel MOSFET

Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Thermal Resistance: 625°C/W Junction to Ambient

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage	Continuous	V_{GS}	±20	V
	Pulsed		±40	V
Drain-Gate Voltage	R_{GS} ≤1.0MΩ	V_{DGR}	60V	V
Drain Current[1]	Continuous	I_D	0.115	A
	Continuous@100°C		0.073	A
	Pulsed		0.80	A
Power Dissipation[1]		P_D	0.20	W
Derating above T_A =25°C			1.60	mW/°C

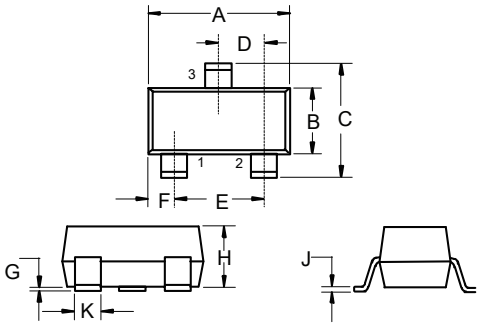
Internal Structure



1. GATE
2. SOURCE
3. DRAIN

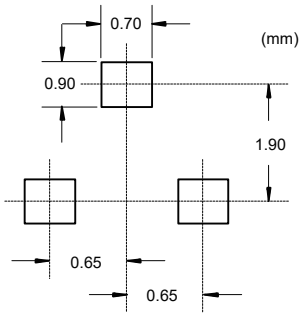
Marking: K72 / 7002

SOT-323



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.071	0.087	1.80	2.20	
B	0.045	0.053	1.15	1.35	
C	0.083	0.096	2.10	2.45	
D	0.026		0.65		TYP.
E	0.047	0.055	1.20	1.40	
F	0.012	0.016	0.30	0.40	
G	0.000	0.004	0.00	0.10	
H	0.035	0.044	0.90	1.10	
J	0.002	0.010	0.05	0.25	
K	0.006	0.016	0.15	0.40	

Suggested Solder Pad Layout



ELECTRICAL CHARACTERISTICS (Ta=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=10μA	60	70		V
Gate-Threshold Voltage(2)	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	1.0		2.0	V
Gate-Body Leakage	I_{GSS}	V_{DS}=0V, V_{GS}=±20V			±10	μA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=60V, V_{GS}=0V,T_C=25°C			1.0	μA
		V_{DS}=60V, V_{GS}=0V,T_C=125°C			500	
On-State Drain Current	$I_{D(on)}$	V_{DS}=7.5V, V_{GS}=10V	500	1000		mA
Drain-Source On-Resistance(2)	$R_{DS(on)}$	V_{GS}=10V, I_D=500mA		4.4	13.5	Ω
		V_{GS}=5V, I_D=50mA		3.2	7.5	
Forward Transconductance	g_{fs}	V_{DS}=10V, I_D=200mA	80			ms
Input Capacitance	C_{iss}	V_{DS}=25V,V_{GS}=0V, f=1MHz		22	50	pF
Output Capacitance	C_{oss}			11	25	
Reverse Transfer Capacitance	C_{rss}			2	5	
Turn-On Time	$t_{d(on)}$	V_{DD}=30V,V_{GEN}=10V,R_L=150Ω, I_D=200mA,R_{GEN}=25Ω		7	20	ns
Turn-Off Time	$t_{d(off)}$			11	20	

Note: 1. Valid Provided That Terminals are Kept at Specified Ambient Temperature.

2. Pulse Test: Pulse Width ≤300μs, Duty Cycle≤2%.

Curve Characteristics

Fig. 1 - Output Characteristics

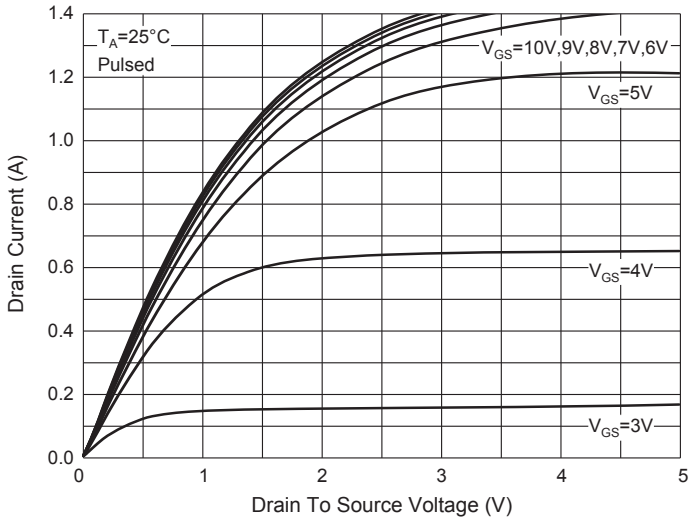


Fig. 2 - Transfer Characteristics

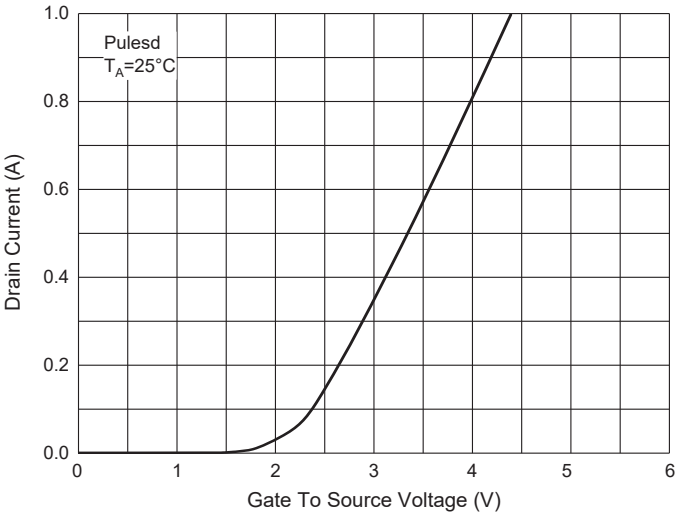


Fig. 3 - $R_{DS(ON)}$—I_D

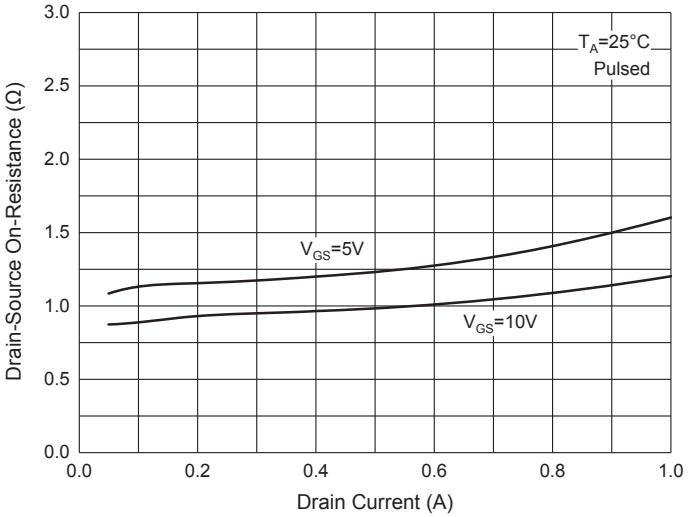


Fig. 3 - $R_{DS(ON)}$—V_{GS}

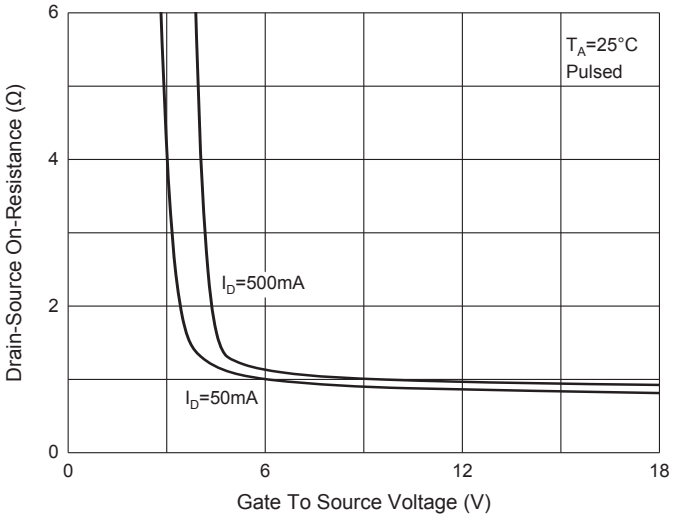
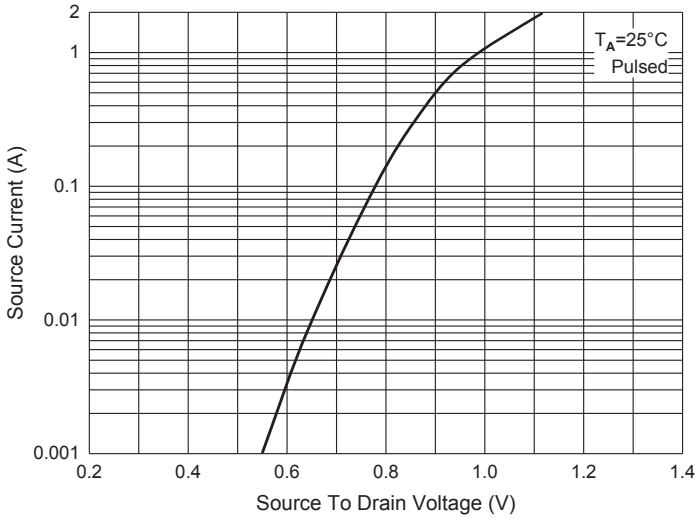


Fig. 5 - I_S—V_{SD}



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:3Kpcs/Reel

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