

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. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

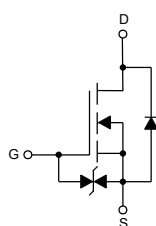
Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Thermal Resistance: 461 °C/W Junction to Ambient

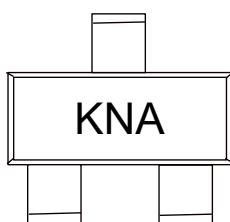
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current-Continuous	I_D	0.3	A
Power Dissipation	P_D	0.27	W

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

Internal Structure and Marking Code

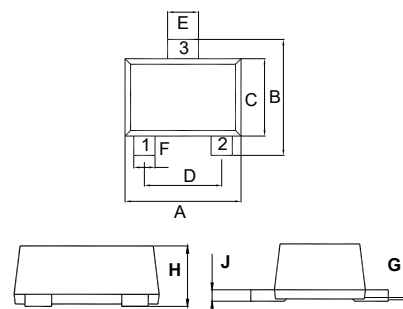


1. GATE
2. SOURCE
3. DRAIN



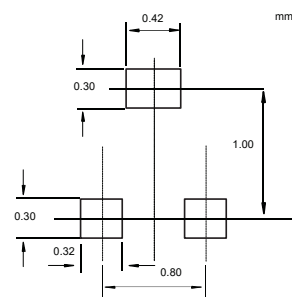
N-Channel MOSFET

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	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	30			V
Gate-Source Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 1	μA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V, V_{GS}=0V$			1	μA
Gate-Threshold Voltage	$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=250\mu A$	0.8	1	1.45	V
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=500mA$		1.6	3	Ω
		$V_{GS}=4.5V, I_D=200mA$		1.9	4	Ω
		$V_{GS}=2.5V, I_D=100mA$		4.7	8	Ω
Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_S=-0.3A$			1.3	V
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS}=30V, V_{GS}=0V, f=1MHz$		28		pF
Output Capacitance	C_{oss}			7.8		
Reverse Transfer Capacitance	C_{rss}			6.5		
Total Gate Charge	Q_g	$V_{DS}=30V, V_{GS}=10V, I_D=0.3A$		1.2		nC
Gate-Source Charge	Q_{gs}			0.2		
Gate-Drain Charge	Q_{gd}			0.1		
Switching Characteristics						
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V, V_{DD}=10V,$ $I_D=300mA, R_L=33\Omega, R_G=3.9\Omega,$		2.8		ns
Turn-Off Delay Time	$t_{d(off)}$			2.6		
Turn-on Rise Time	t_r			7.9		
Turn-off Fall Time	t_f			9.9		

Curve Characteristics

Fig. 1 - Typical Output Characteristics

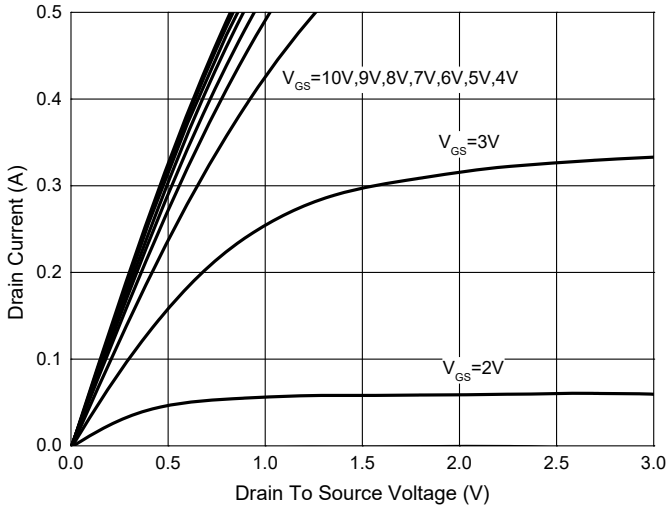


Fig.2 - $R_{DS(ON)} - I_D$

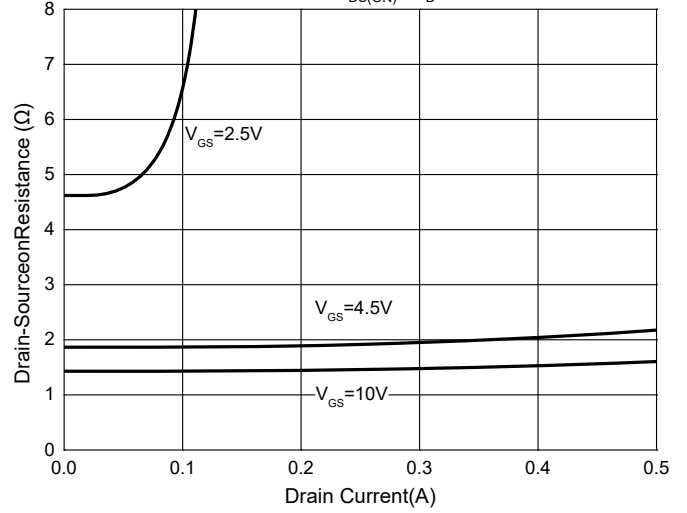


Fig.3 - Normalized On Resistance Characteristics

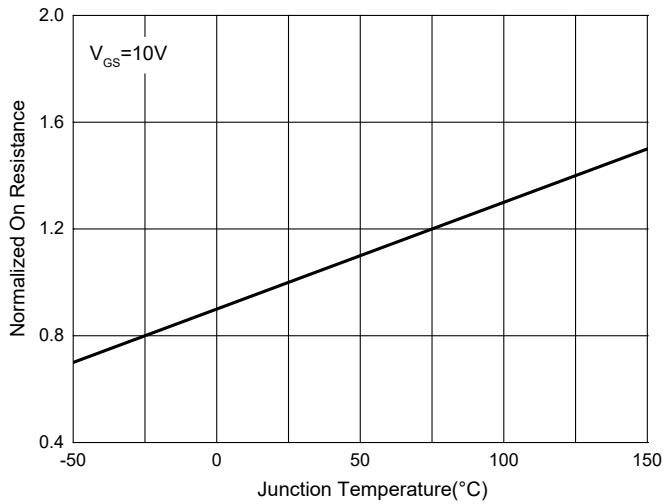


Fig. 4 - $I_S - V_{SD}$

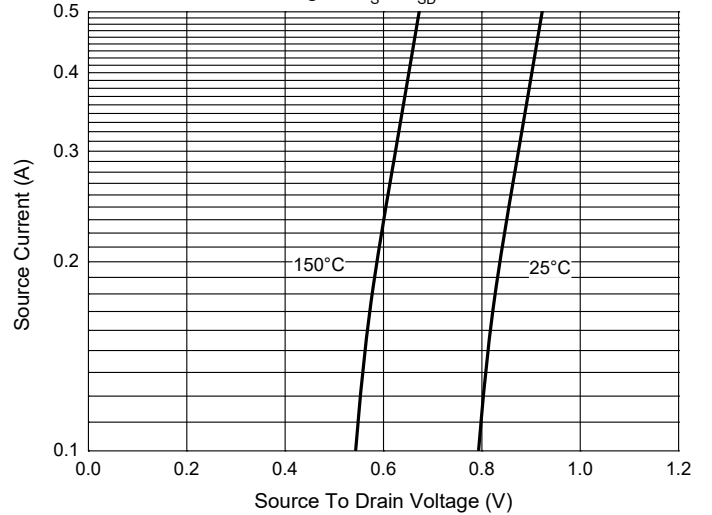


Fig. 5 - Capacitance Characteristics

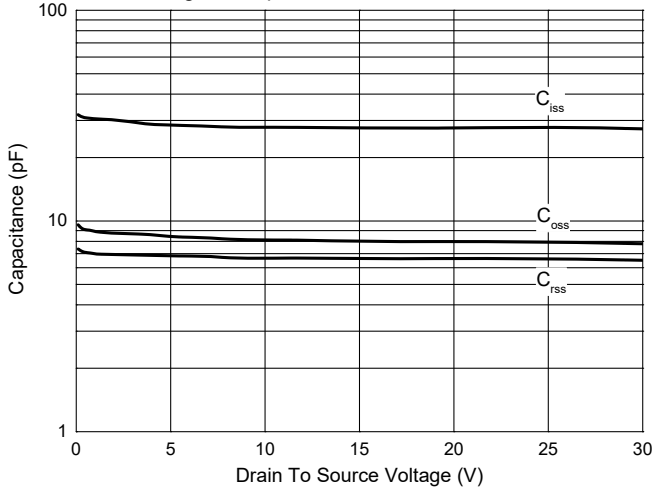
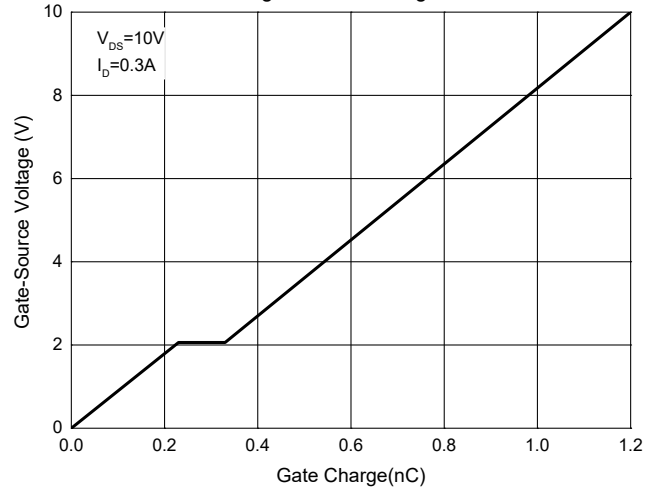


Fig. 6 - Gate Charge



Curve Characteristics

Fig. 7 - Safe Operation Area

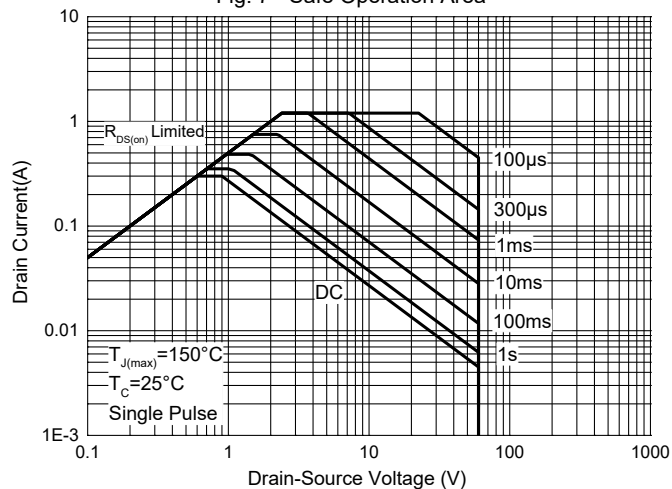
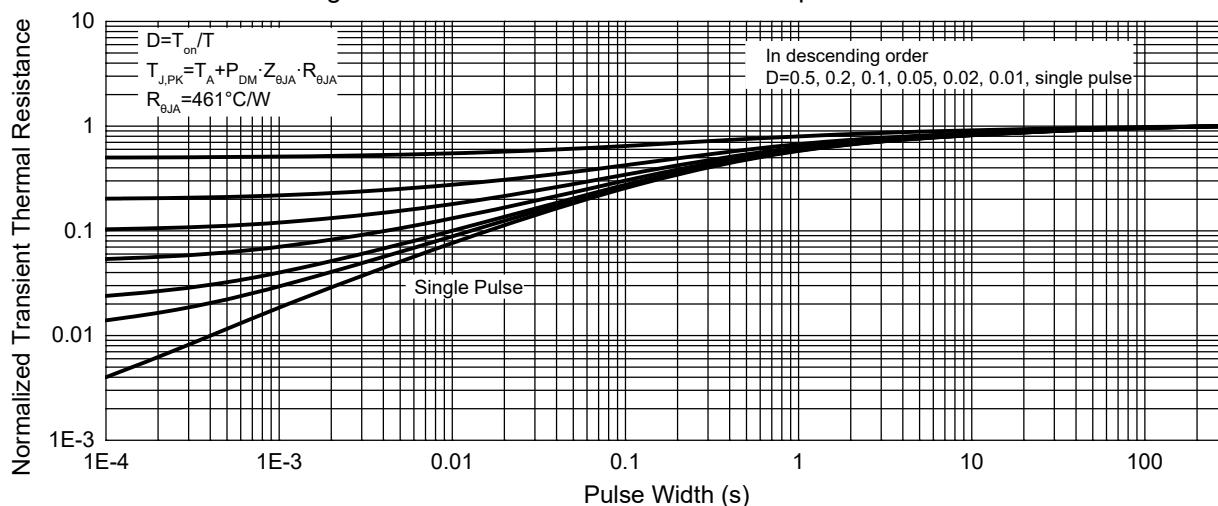


Fig. 8 - Normalized Transient Thermal Impedance



Ordering Information

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

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