

Features

- Operated at Low Logic Level Gate Drive
- P-Channel Switch with Low $R_{DS(on)}$
- 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

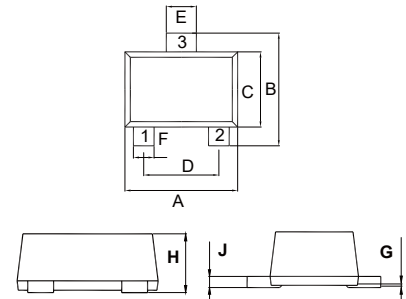
- Operating Junction Temperature Range: -55°C to $+150^{\circ}\text{C}$
- Storage Temperature Range: -55°C to $+150^{\circ}\text{C}$
- Maximum Thermal Resistance: 833°C/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 12	V
Drain Current-Continuous	I_D	-0.66	A
Pulsed Drain Current ^(Note 2)	I_{DM}	-1.2	A
Power Dissipation	P_D	0.15	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.

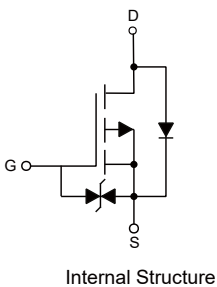
P-Channel MOSFET

SOT-723

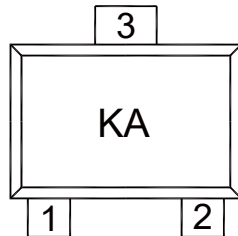


DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.043	0.051	1.10	1.30	
B	0.043	0.051	1.10	1.30	
C	0.028	0.035	0.70	0.90	
D	0.031		0.80		TYP.
E	0.009	0.017	0.22	0.42	
F	0.005	0.013	0.12	0.32	
G	0.000	0.002	0.00	0.05	
H	0.017	0.021	0.43	0.54	
J	0.003	0.006	0.08	0.15	

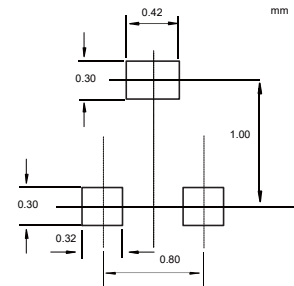
Internal Structure and Marking Code



1. GATE
2. SOURCE
3. DRAIN



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	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-20			V
Gate-Threshold Voltage ^(Note 3)	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.35		-1.1	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-20V, V_{GS}=0V$			-1.0	μA
Gate-body Leakage Current	I_{GSS}	$V_{GS}=\pm 10V, V_{DS}=0V$			± 10	μA
Drain-Source On-Resistance ^(Note 3)	$R_{DS(on)}$	$V_{GS}=-4.5V, I_D=-500mA$			0.85	Ω
		$V_{GS}=-2.5V, I_D=-300mA$			1.2	
		$V_{GS}=-1.8V, I_D=-200mA$			2.0	
Forward transconductance	g_{FS}	$V_{DS}=-10V, I_D=-500mA$	0.8			S
Diode Forward Voltage ^(Note 3)	V_{SD}	$V_{GS}=0V, I_S=-500mA$			-1.2	V
Dynamic Characteristics^(Note 4)						
Input Capacitance	C_{iss}	$V_{DS}=-16V, V_{GS}=0V, f=1MHz$		40		pF
Output Capacitance	C_{oss}			16		
Reverse Transfer Capacitance	C_{rss}			11		
Total Gate Charge	Q_g	$V_{GS}=-4.5V, V_{DS}=-10V, I_D=-1A$		860		pC
Gate-Source Charge	Q_{gs}			320		
Gate-Drain Charge	Q_{gd}			200		
Switching Characteristics^(Note 4)						
Turn-on Delay Time	$t_{d(on)}$	$V_{DS}=-10V, V_{GS}=-4.5V, I_D=-500mA,$ $R_G=10\Omega$		3.8		ns
Turn-off Delay Time	$t_{d(off)}$			9.4		
Rise Time	t_r			19		
Fall Time	t_f			23		

Notes :

2. Repetitive Rating : Pulse Width Limited by Junction Temperature.
3. Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 0.5\%$.
4. Guaranteed by Design, Not Subject to Production Testing.

Curve Characteristics

Fig. 1 - Typical Output Characteristics

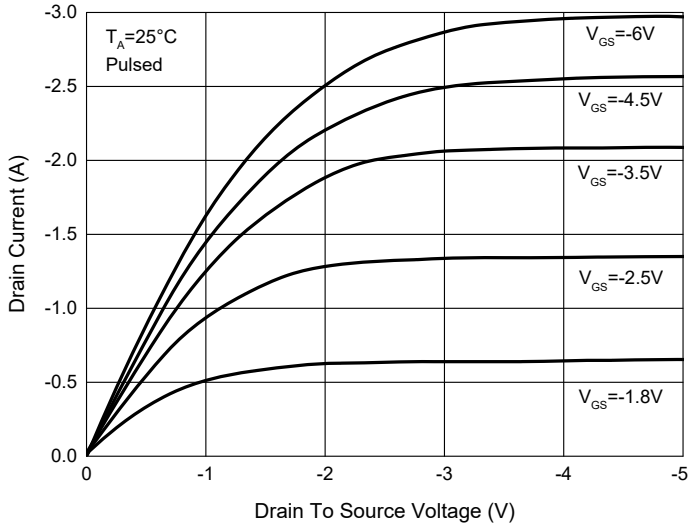


Fig. 2 - Transfer Characteristics

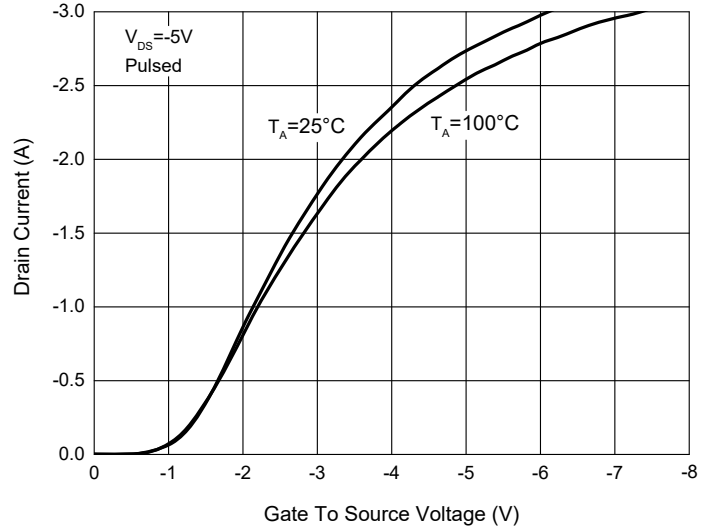


Fig. 3 - $R_{DS(ON)} - I_D$

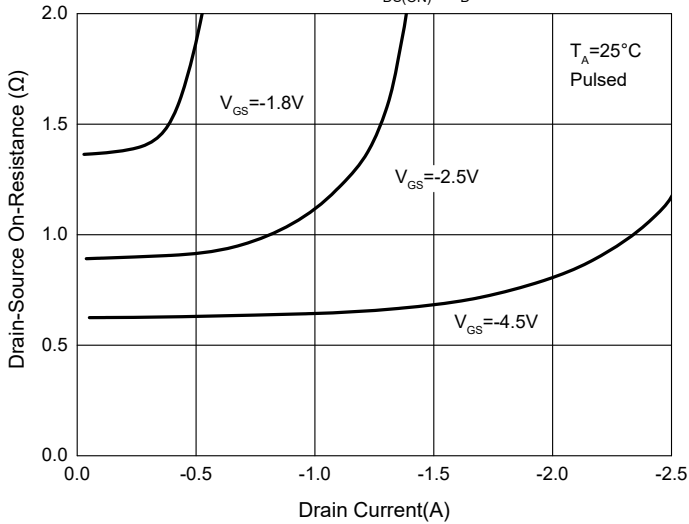


Fig. 4 - $R_{DS(ON)} - V_{GS}$

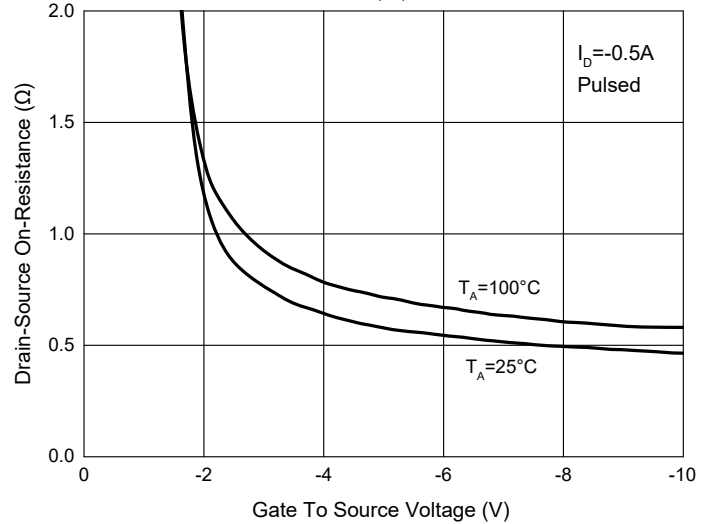


Fig. 5 - $I_S - V_{SD}$

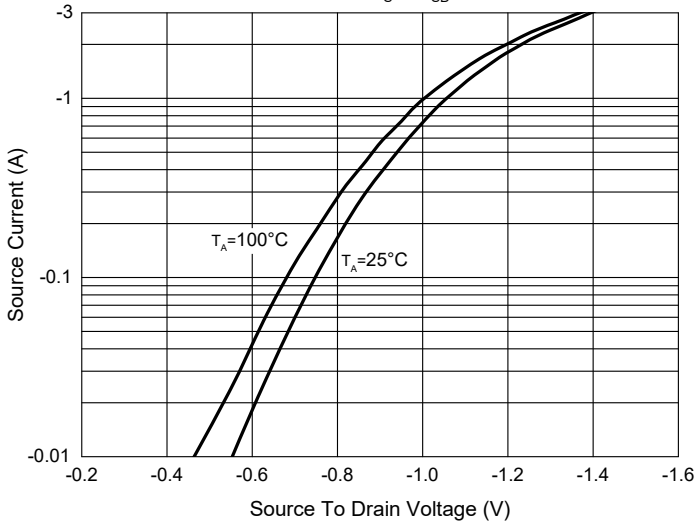
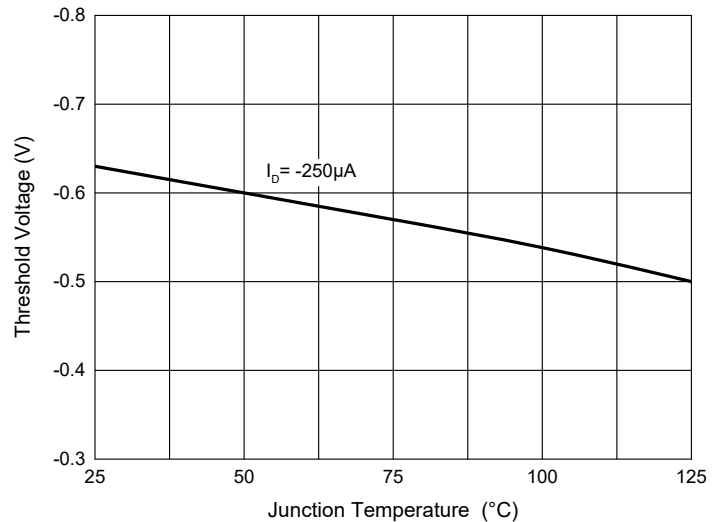


Fig. 6 - Threshold Voltage



Curve Characteristics

Fig. 7 - Capacitance Characteristics

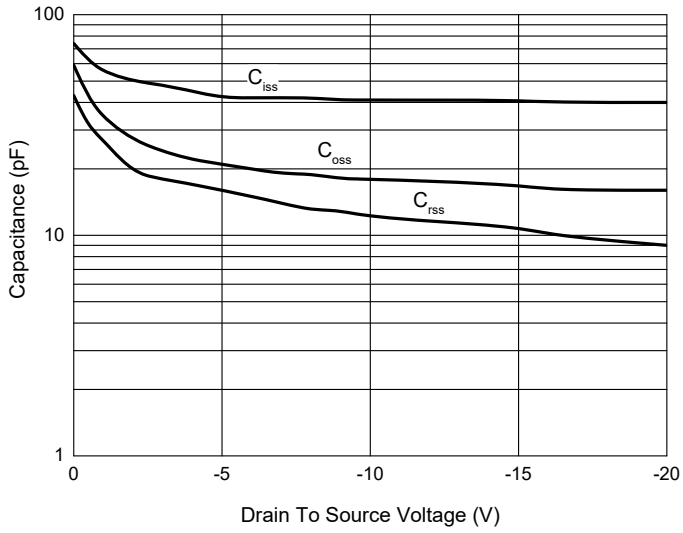
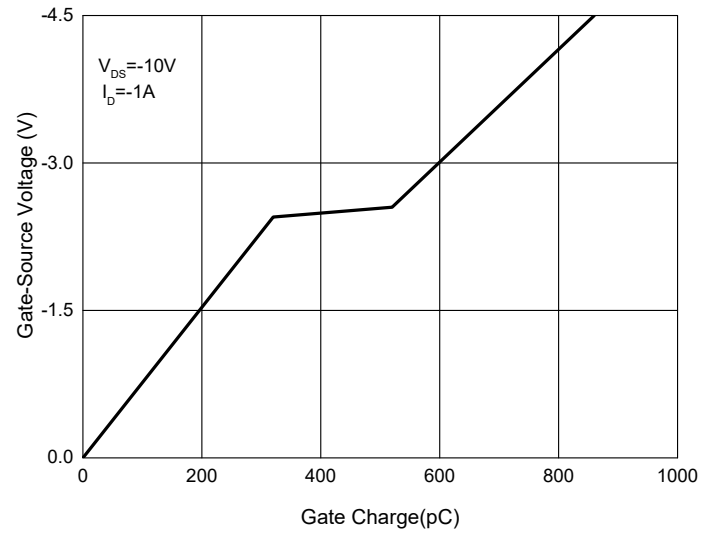


Fig. 8 - Gate Charge



Ordering Information

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

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