

### Features

- High Density Cell Design for Ultra Low  $R_{DS(on)}$
- Rugged and Reliable
- 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)

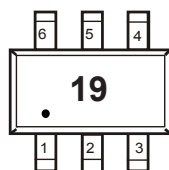
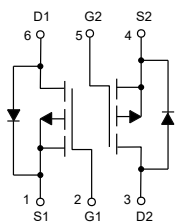
### Maximum Ratings

- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 513°C/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	-20	V
Gate-Source Voltage	$V_{GS}$	±10	V
Continuous Drain Current	$I_D$	-1	A
Pulsed Drain Current	$I_{DM}$	-4	A
Total Power Dissipation	$P_D$	243	mW

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

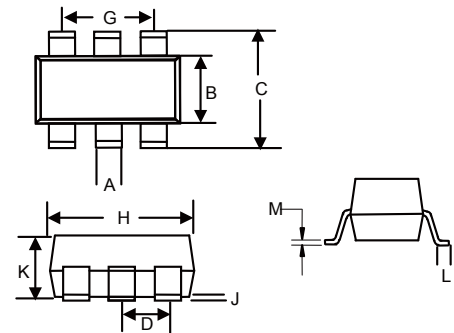
### Internal Structure and Marking Code



Dot denotes Pin1

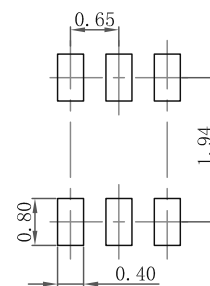
# Dual P-Channel MOSFET

## SOT-363



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.006	0.014	0.15	0.35	
B	0.045	0.053	1.15	1.35	
C	0.079	0.096	2.00	2.45	
D	0.026		0.65		TYP.
G	0.047	0.055	1.20	1.40	
H	0.071	0.087	1.80	2.20	
J	----	0.004	----	0.10	
K	0.031	0.043	0.80	1.10	
L	0.010	0.018	0.26	0.46	
M	0.003	0.006	0.08	0.15	

### SUGGESTED SOLDER PAD LAYOUT



**Electrical Characteristics @ 25°C (Unless Otherwise Specified)**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
<b>Static Characteristics</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-20			V
Gate-Source Leakage Current	$I_{GSS}$	$V_{DS}=0V, V_{GS}=\pm 10V$			-100	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=-20V, V_{GS}=0V$			-1	$\mu A$
Gate-Threshold Voltage <sup>(Note 2)</sup>	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.4	-0.62	-1	V
Drain-Source On-Resistance <sup>(Note 2)</sup>	$R_{DS(on)}$	$V_{GS}=-4.5V, I_D=-1A$		119	140	m $\Omega$
		$V_{GS}=-2.5V, I_D=-0.6A$		150	165	
		$V_{GS}=-1.8V, I_D=-0.3A$		193	250	
Diode Forward Voltage <sup>(Note 2)</sup>	$V_{SD}$	$V_{GS}=0V, I_S=-1A$			-1.2	V
<b>Dynamic Characteristics<sup>(Note 3)</sup></b>						
Input Capacitance	$C_{iss}$	$V_{DS}=-10V, V_{GS}=0V, f=1MHz$		327		pF
Output Capacitance	$C_{oss}$			62		
Reverse Transfer Capacitance	$C_{riss}$			55		
<b>Switching Characteristics<sup>(Note 3)</sup></b>						
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=-4.5V, V_{DS}=-10V, R_{GEN}=2.5\Omega, I_D=-1A$		6		ns
Turn-On Rise Time	$t_r$			30		
Turn-Off Delay Time	$t_{d(off)}$			45		
Turn-Off Fall Time	$t_f$			46		
Total Gate Charge	$Q_g$	$V_{GS}=-4.5V, V_{DS}=-10V, I_D=-1A$		4.5		nC
Gate Source Charge	$Q_{gs}$			0.85		
Gate Drain Charge	$Q_{gd}$			1.4		

Note: 2. Pulse Test : Pulse Width  $\leq 80\mu s$ , Duty Cycle  $\leq 0.5\%$ .

3. Guaranteed by Design, Not Subject to Production Testing.

## Curve Characteristics

Fig. 1 - Typical Output Characteristics

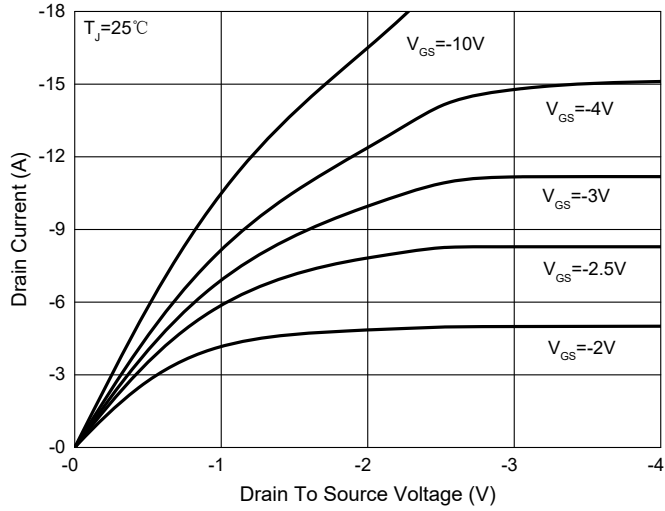


Fig. 2 - Transfer Characteristics

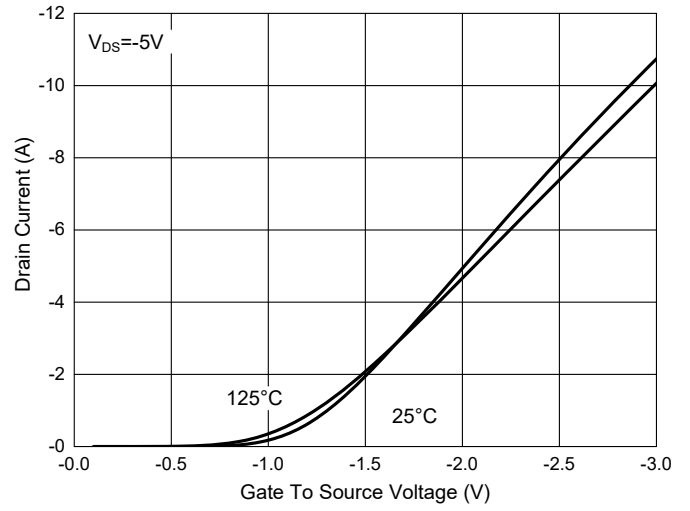


Fig. 3 -  $R_{DS(ON)} - I_D$

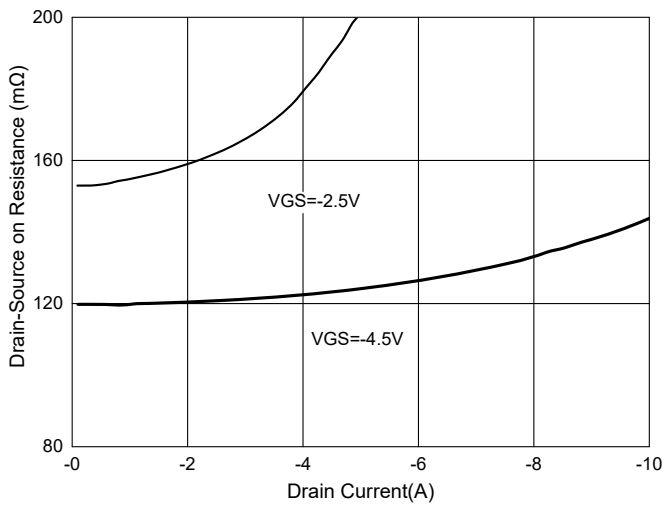


Fig. 4 -  $R_{DS(ON)} - V_{GS}$

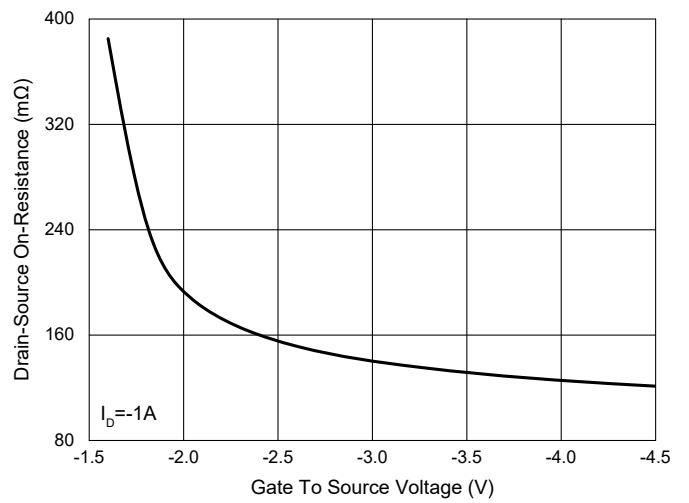


Fig. 5 -  $I_S - V_{SD}$

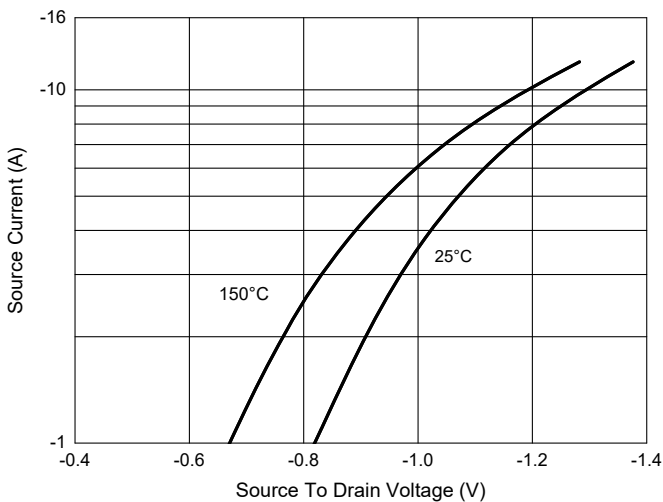
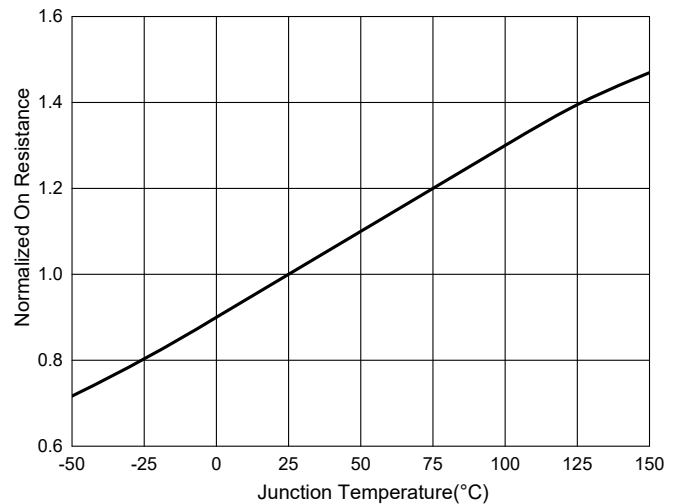


Fig. 6 - Normalized On Resistance Characteristics



## Ordering Information

Fig. 7 - Capacitance Characteristics

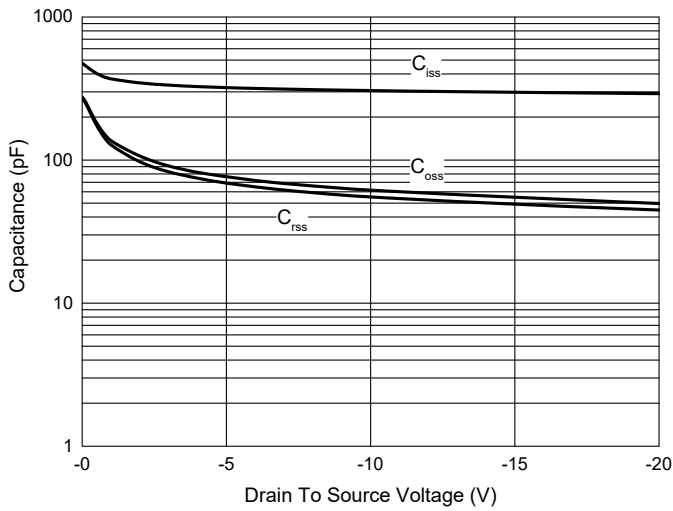


Fig. 8 - Gate Charge

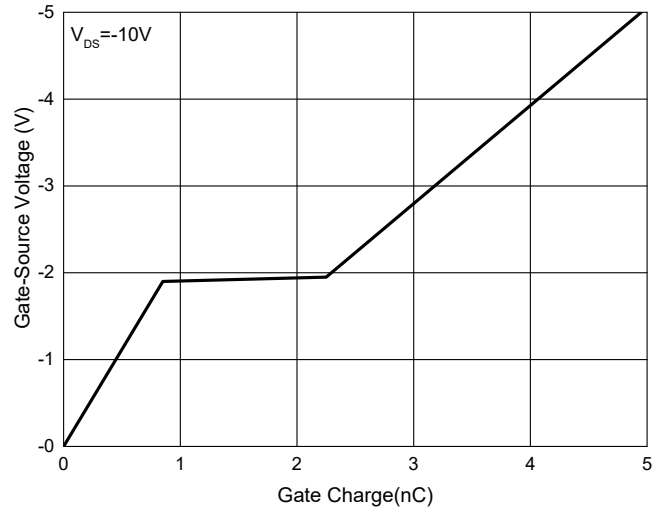


Fig. 9 - Safe Operation Area

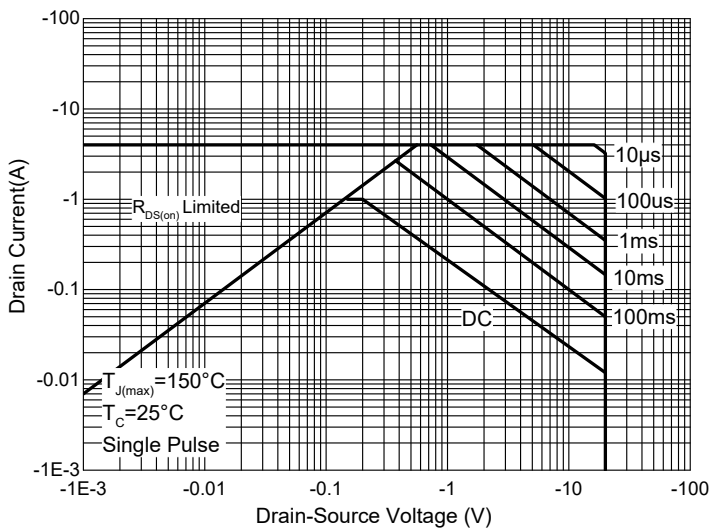
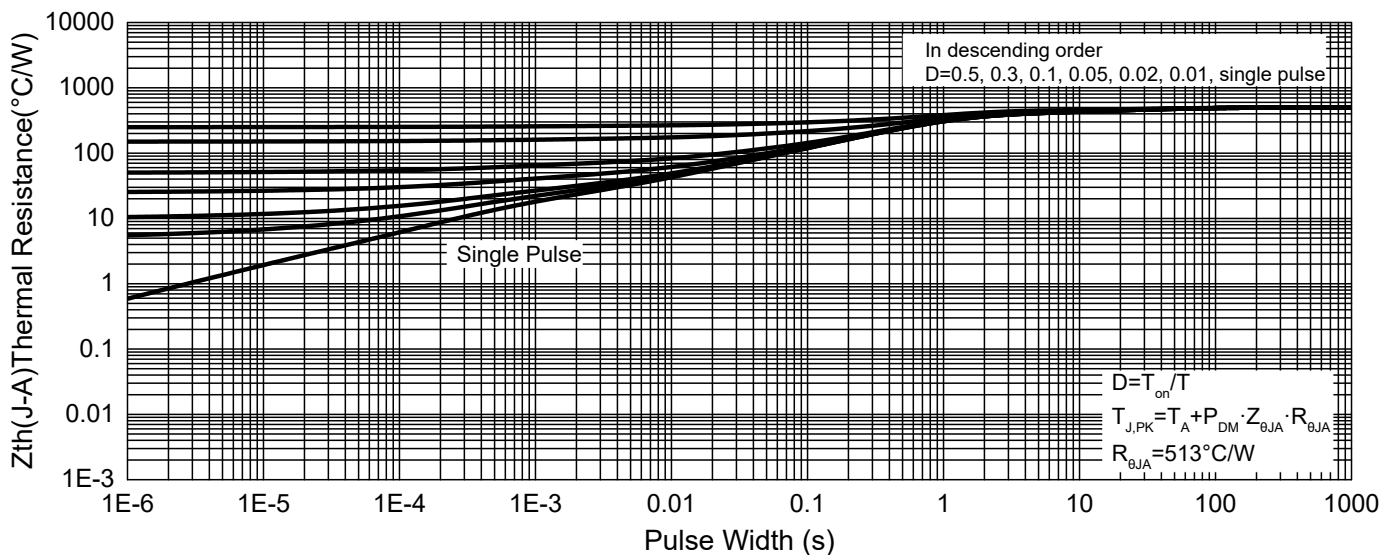


Fig. 10 - Maximum Transient Thermal Impedance



## Ordering Information

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

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