Features

- Low RDS(on)
- Operated at Low Logic Level Gate Drive
- 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: 833°C/W Junction to Ambient(Note 2)
- Thermal Resistance: 260°C/W Junction to Lead(Note 2)

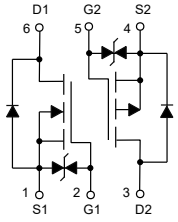
Parameter	Symbol	Rating	Unit
Total Power Dissipation	P_D	150	mW
N-Channel MOSFET			
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Volltage	V_{GS}	±12	V
Continuous Drain Current	I_D	0.75	A
Pulsed Drain Current(Note 3)	I_{DM}	1.8	A
P-Channel MOSFET			
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Volltage	V_{GS}	±12	V
Continuous Drain Current	I_D	-0.66	A
Pulsed Drain Current(Note 3)	I_{DM}	-1.2	A

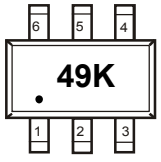
Note: 1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

2. Surface Mounted on FR-4 Board Using Minimum Pad Size.

3. Pulse Width Limited by Maximum Junction Temperature.

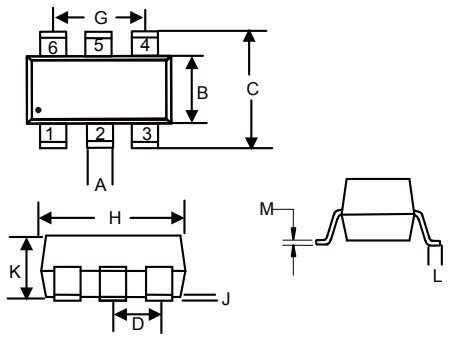
Internal Structure and Marking Code





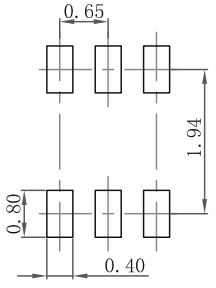
Dual N&P-Channel MOSFET

SOT-363



DIMENSIONS					
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



N-Channel MOSFET Electrical Characteristics @ 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=250μA	20			V
Gate-Source Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS} =±10V			±20	μA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=20V, V_{GS}=0V			1	μA
Gate-Threshold Voltage(Note 4)	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	0.35	0.75	1.1	V
Drain-Source On-Resistance(Note 4)	$R_{DS(on)}$	V_{GS}=4.5V, I_D=0.65A		190	380	mΩ
		V_{GS}=2.5V, I_D=0.55A		260	450	
		V_{GS}=1.8V, I_D=0.45A		390	800	
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_S=0.15A			1.2	V
Forward Tranconductance(Note 4)	g_{FS}	V_{DS}=10V, I_D=0.8A		1.6		S
Dynamic Characteristics(Note 6)						
Input Capacitance	C_{iss}	V_{DS}=16V,V_{GS}=0V,f=1MHz		79	120	pF
Output Capacitance	C_{oss}			13	20	
Reverse Transfer Capacitance	C_{rss}			9	15	
Switching Characteristics(Note 5,6)						
Turn-On Delay Time	$t_{d(on)}$	V_{DS} =10V, V_{GS} =4.5V, I_D=500mA, R_{GEN}=10Ω		6.7		ns
Turn-On Rise Time	t_r			4.8		
Turn-Off Delay Time	$t_{d(off)}$			17.3		
Turn-Off Fall Time	t_f			7.4		

P-Channel MOSFET Electrical Characteristics @ 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=-250μA	-20			V
Gate-Source Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS} =±10V			±20	μA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-20V, V_{GS}=0V			-1	μA
Gate-Threshold Voltage(Note 4)	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=-250μA	-0.35	-0.60	-1.1	V
Drain-Source On-Resistance(Note 4)	$R_{DS(on)}$	V_{GS}=-4.5V, I_D=-1A		450	520	mΩ
		V_{GS}=-2.5V, I_D=-0.8A		650	780	
		V_{GS}=-1.8V, I_D=-0.5A		950		
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_S=-0.5A			-1.2	V
Forward Tranconductance(Note 4)	g_{FS}	V_{DS}=-10V, I_D=-0.54A		1.2		S
Dynamic Characteristics(Note 6)						
Input Capacitance	C_{iss}	V_{DS}=-16V,V_{GS}=0V,f=1MHz		113		pF
Output Capacitance	C_{oss}			15		
Reverse Transfer Capacitance	C_{rss}			9		
Switching Characteristics(Note 5,6)						
Turn-On Delay Time	$t_{d(on)}$	V_{DS} =-10V, V_{GS} =-4.5V I_D=-200mA,R_{GEN}=10Ω		9		ns
Turn-On Rise Time	t_r			5.8		
Turn-Off Delay Time	$t_{d(off)}$			32.6		
Turn-Off Fall Time	t_f			20.3		

Note 4. Pulse Test : Pulse Width≤300μs, Duty Cycle ≤ 2%.

5. Switching characteristics are independent of operating junction temperature.

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

Curve Characteristics(N-Channel)

Fig. 1 - Output Characteristics

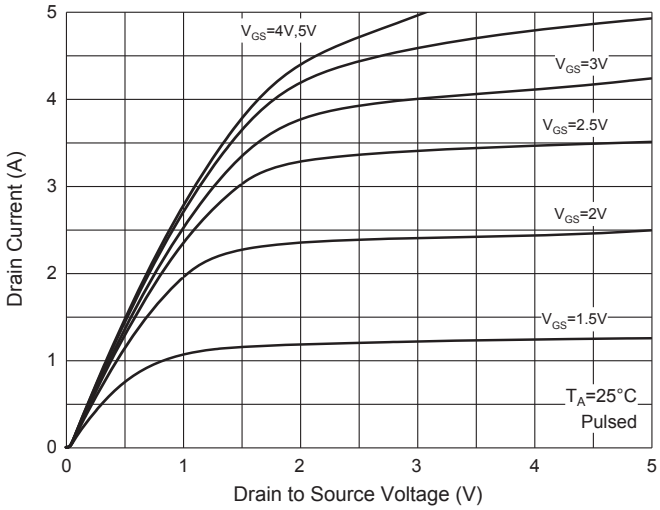


Fig. 2 - Transfer Characteristics

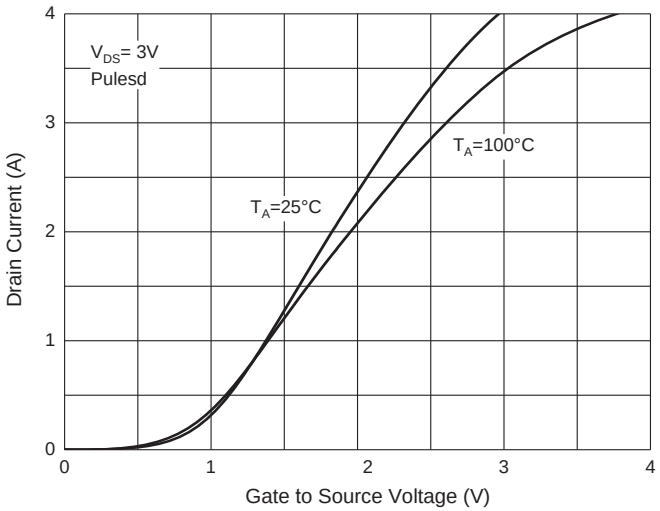


Fig. 3 - $R_{DS(ON)}$—I_D

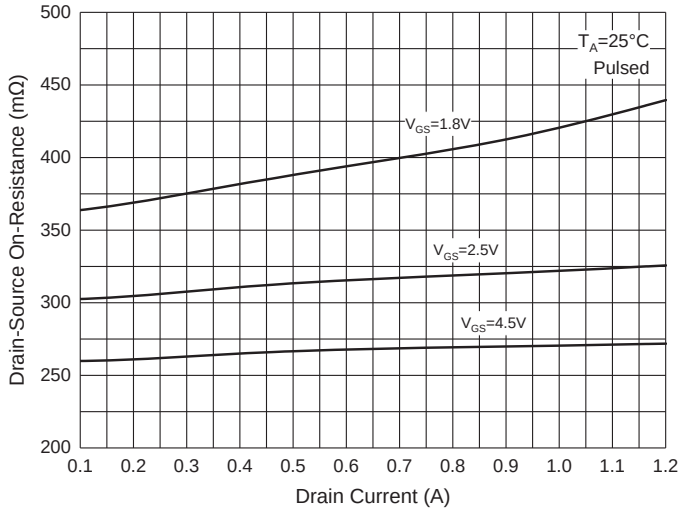


Fig. 4 - $R_{DS(ON)}$—V_{GS}

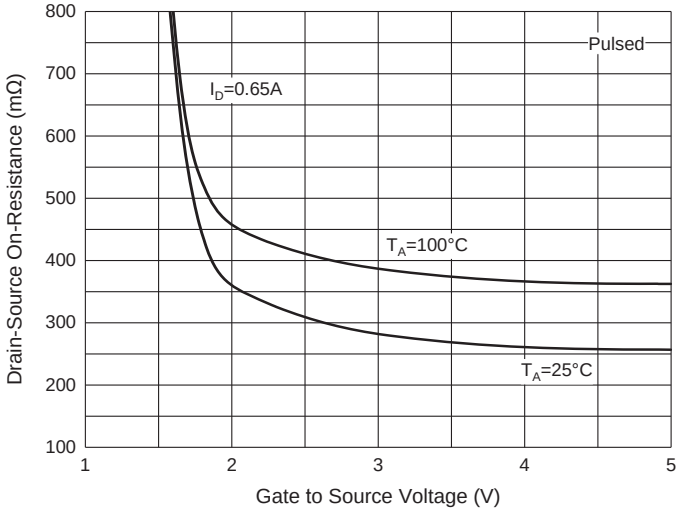


Fig. 5 - I_S—V_{SD}

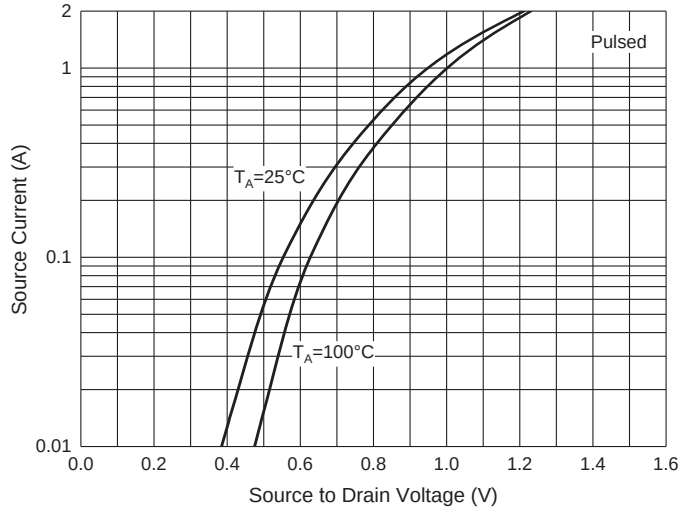
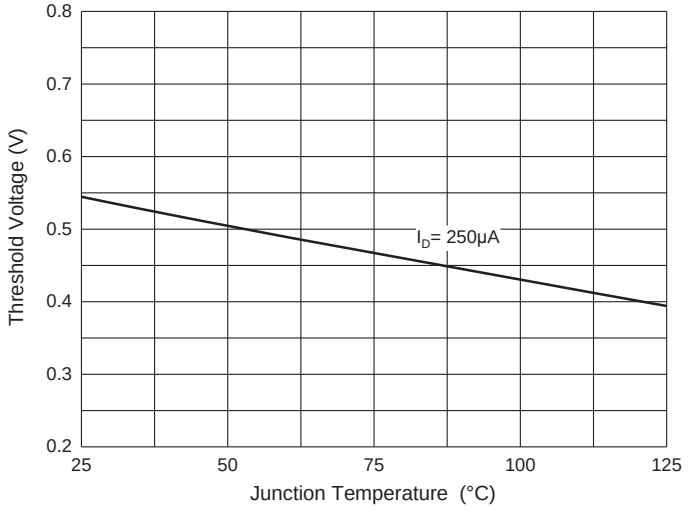


Fig. 6 - Threshold Voltage



Curve Characteristics(P-Channel)

Fig. 7 - Output Charact eristics

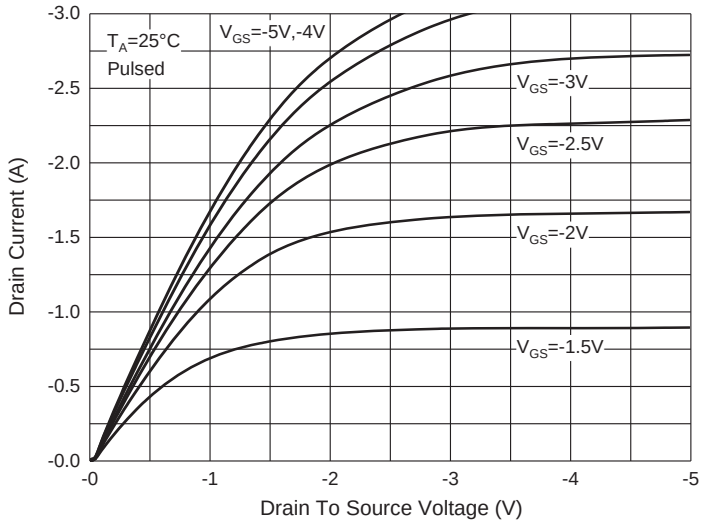


Fig. 8 - Transfer Characteristics

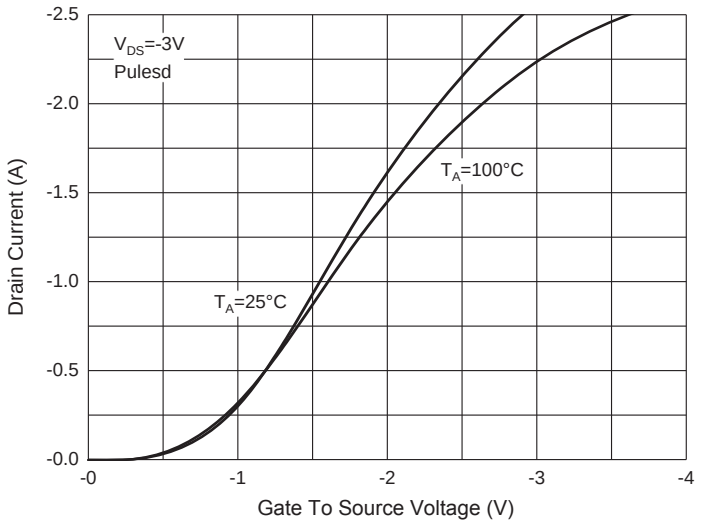


Fig. 9 - $R_{DS(ON)}$—I_D

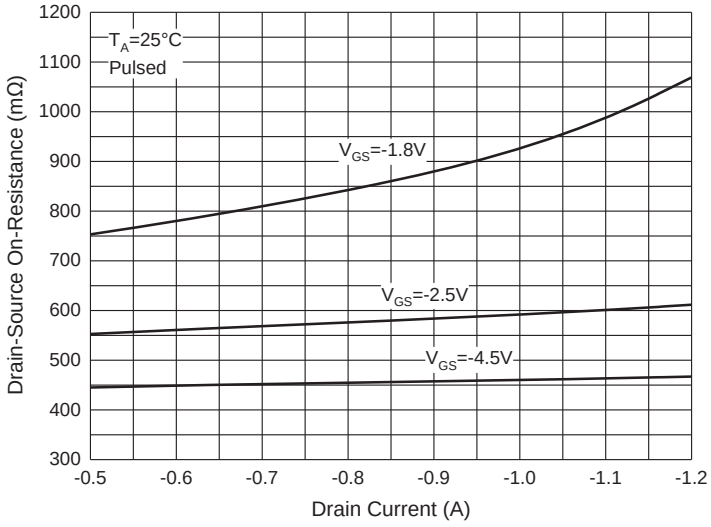


Fig. 10 - $R_{DS(ON)}$—V_{GS}

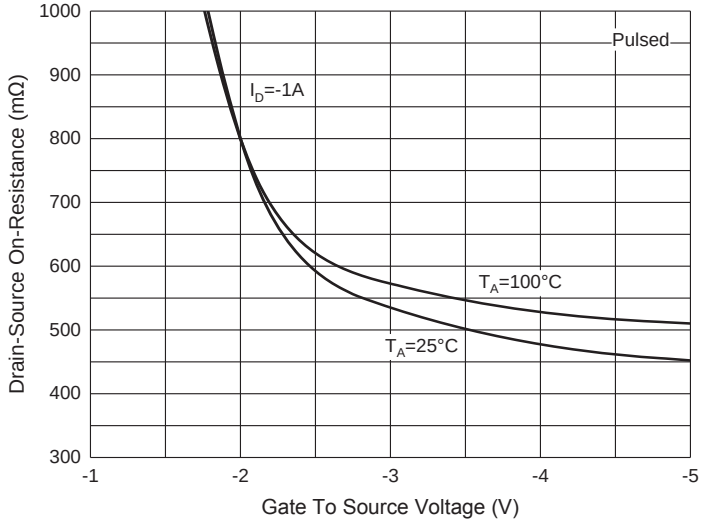


Fig. 11 - I_S—V_{SD}

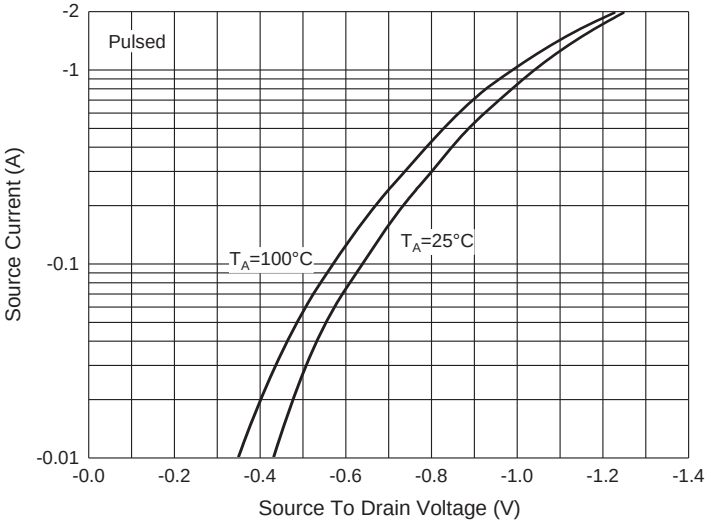
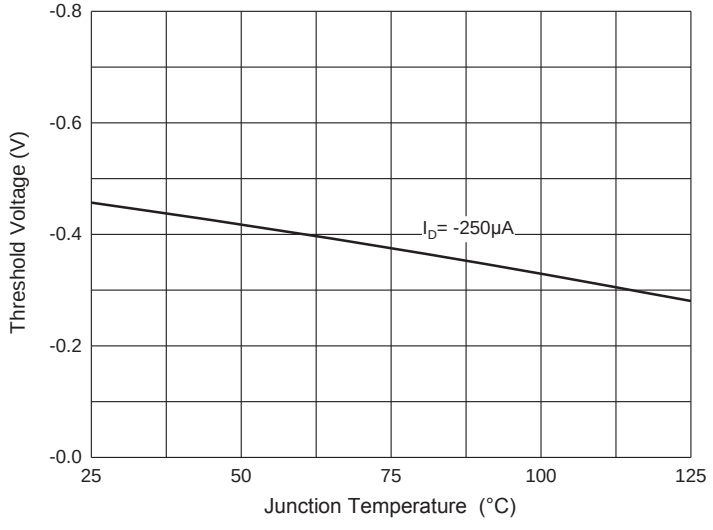


Fig. 12 - Threshold Voltage



Ordering Information

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

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