KY4953C

-30V Dual P-Channel Mosfet

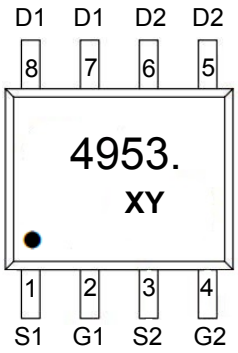
FEATURES

- $R_{DS(ON)}$ ≤ 87mΩ(66mΩ Typ.) @V_{GS}=-10V
- $R_{DS(ON)}$ ≤ 130mΩ(100mΩ Typ.) @V_{GS}=-4.5V

APPLICATIONS

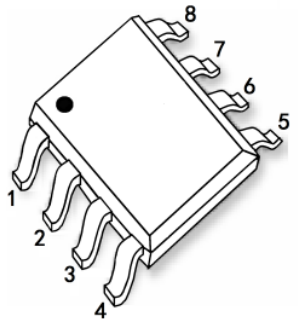
- PWM Applications
- Load Switch
- Power Management

MARKING



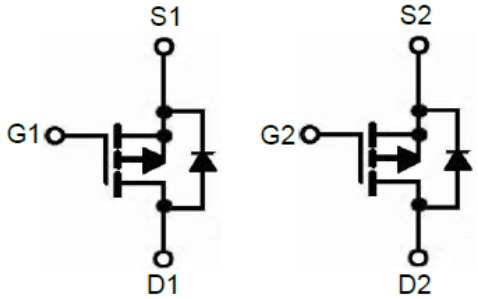
XY: DC Code

SOP-8



1: S1	3: S2	5: D2	7: D1
2: G1	4: G2	6: D2	8: D1

P-CHANNEL MOSFET



MAXIMUM RATINGS Ta=25℃ unless otherwise specified

Symbol	Parameter	Rating	Units
V_{DSS}	Drain-Source Voltage	-30	V
V_{GSS}	Gate-Source Voltage	±20	V
I_D	Continuous Drain Current	-3.8	A
I_{DM}	Pulsed Drain Current note1	-12	A
P_D	Power Dissipation	2.0	W
$R_{\theta JA}$	Junction-to-Ambient	62.5	℃/W
T_J	Junction Temperature	150	℃
Tstg	Operating Junction and Storage Temperature Range	–55 to 150	℃

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ELECTRICAL CHARACTERISTICS Ta= 25℃ unless otherwise specified

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
OFF Characteristics						
V_{DSS}	Drain to Source Breakdown Voltage	V_{GS}=0V, I_D=-250μA	-30	--	--	V
I_{DSS}	Drain to Source Leakage Current	V_{DS}=-30V,V_{GS}=0V	--	--	-1	μA
I_{GSS}	Gate to Source Forward Leakage	V_{GS}=±20V,V_{DS}=0V	--	--	±100	nA
ON Characteristics						
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS},I_D=-250μA	-1	-1.8	-2	V
$R_{DS(on)}$	Drain-to-Source On-Resistance note2	V_{GS}=-10V, I_D=-3A	--	66	87	mΩ
		V_{GS}=-4.5V, I_D=-2A	--	100	130	mΩ
Dynamic Characteristics note3						
C_{iss}	Input Capacitance	V_{GS}=0V,V_{DS}=-15V f = 1.0MHz	--	320	--	pF
C_{oss}	Output Capacitance		--	50	--	
C_{rss}	Reverse Transfer Capacitance		--	35	--	
Q_g	Total Gate Charge	I_D=-3A,V_{DS}=-15V V_{GS} =-10V	--	9.0	--	nC
Q_{gs}	Gate to Source Charge		--	1.5	--	
Q_{gd}	Gate to Drain (“Miller”) Charge		--	2.0	--	
Switching Characteristics note3						
$t_{d(on)}$	Turn-on Delay Time	I_D=-1A,V_{DS}=-15V V_{GS}= -10V,R_G=6Ω	--	5	--	ns
t_r	Rise Time		--	11	--	
$t_{d(off)}$	Turn-Off Delay Time		--	12	--	
t_f	Fall Time		--	7	--	
Source-Drain Diode Characteristics						
V_{SD}	Diode Forward Voltage	I_S=-3A,V_{GS}=0V T_J=25℃	--	--	-1.2	V

Notes: 1. Repetitive Rating: Pulse width limited by maximum junction temperature

2 . Pulse Test: Pulse width ≤ 300μs, Duty Cycle ≤ 1%

3 . Guaranteed by design, not subject to production testing

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TYPICAL PERFORMANCE CHARACTERISTICS

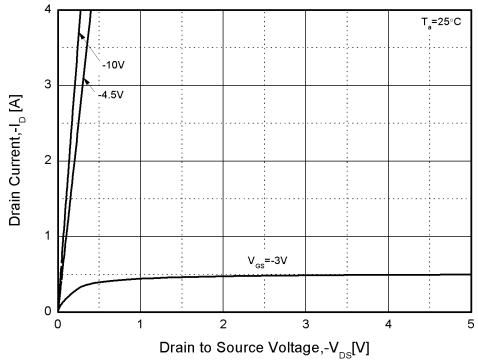

Figure1. Output Characteristics

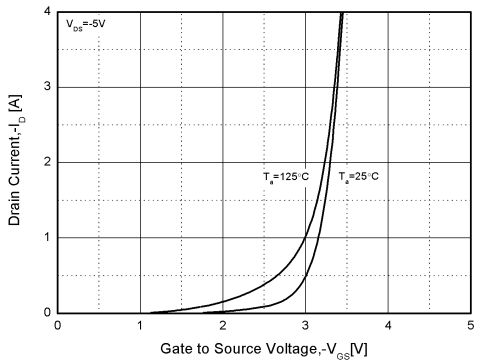

Figure2. Transfer Characteristics

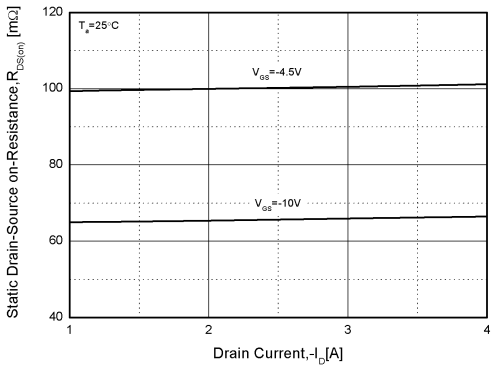

Figure3. Rdson-Drain Current

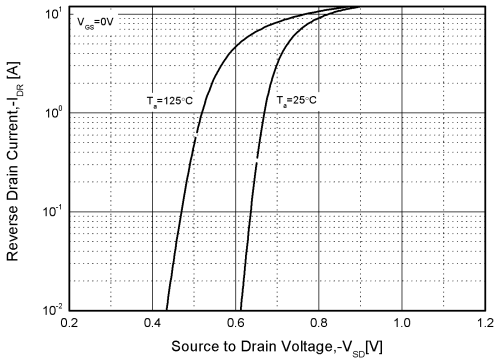

Figure4. Typical Source-Drain Diode Forward Voltage

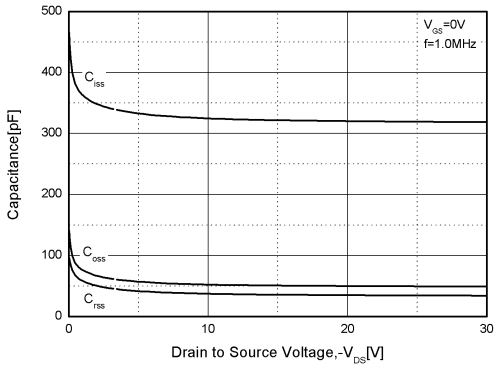

Figure5. Capacitance Characteristics

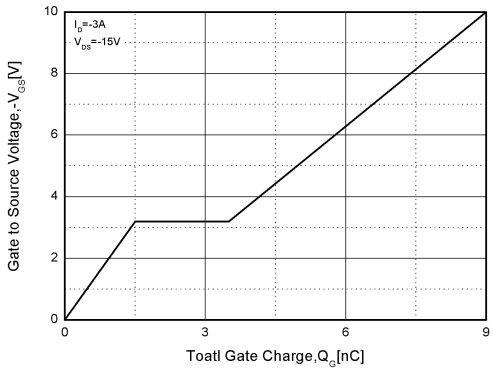

Figure6. Gate Charge

TYPICAL PERFORMANCE CHARACTERISTICS （cont.）

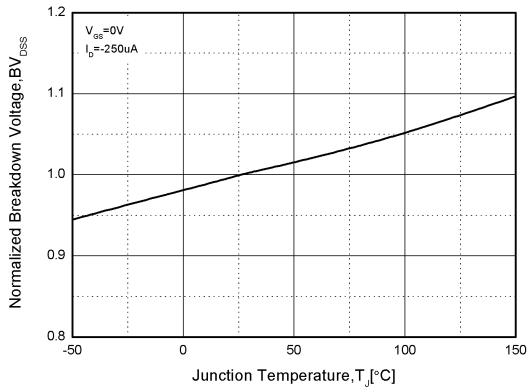

Figure7. Normalized Breakdown Voltage vs. Temperature

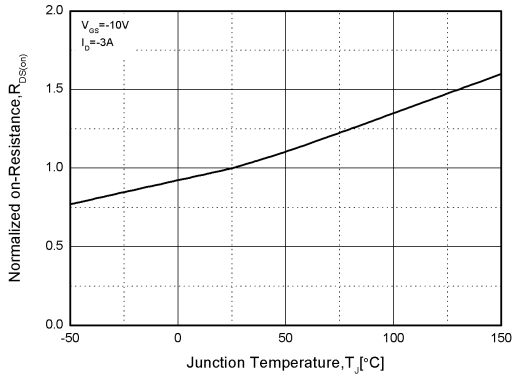

Figure8. Normalized on Resistance vs. Temperature

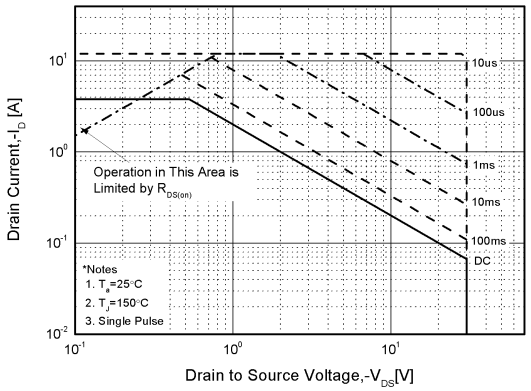

Figure9. Safe Operation Area

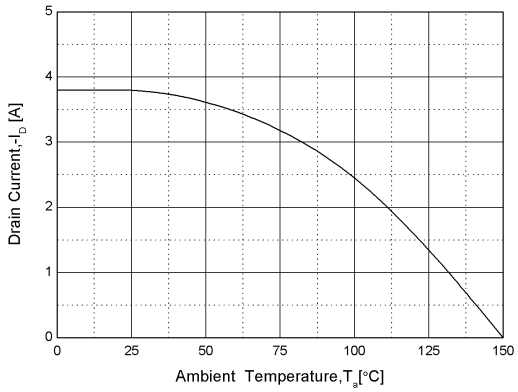

Figure10. Drain Current vs. Ambient Temperature

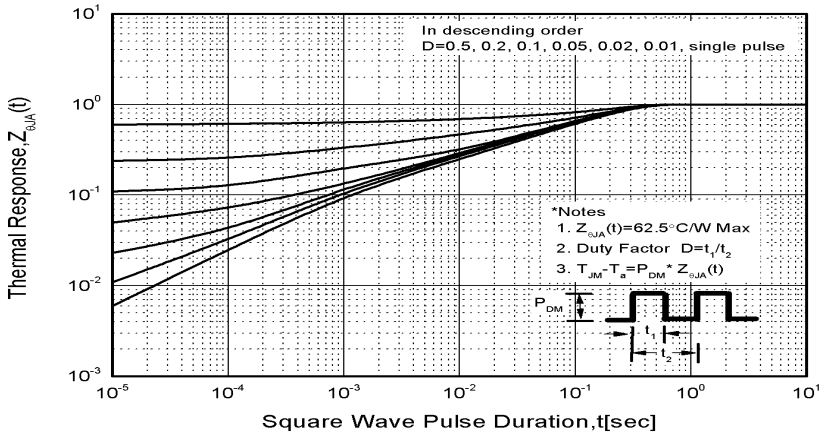

Figure11. Transient Thermal Response Curve

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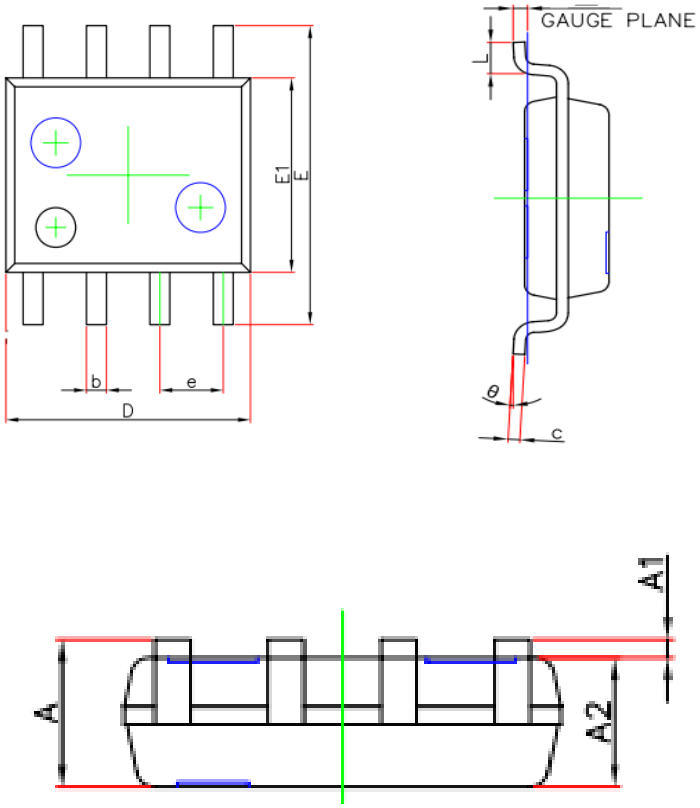
SOP-8 PACKAGE OUTLINE DRAWING



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.063	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.006	0.010
D	4.700	5.100	0.185	0.200
E1	3.800	4.000	0.150	0.157
E	5.800	6.200	0.228	0.244
e	1.27(BSC)		0.050(BSC)	
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°

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