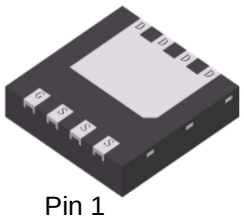
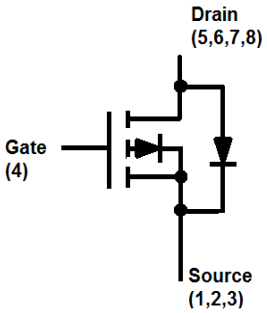
S-LPB8660DT0AG

60V P-Channel Power MOSFET



Pin 1
DFN3333-8A



1. FEATURES

- Low thermal impedance
- Fast switching speed
- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- S-prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.

2. APPLICATIONS

- Load Switches
- DC/DC Conversion
- Motor Drives

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
S-LPB8660DT0AG	P6C	2000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25ºC)

Parameter		Symbol	Limits	Unit
Drain-Source Voltage		VDS	-60	V
Gate-Source Voltage		VGS	±20	
Continuous Drain Current (Note1)	TA = 25℃	ID	-3.8	A
	TA = 70℃		-3.1	
	TC = 25℃		-13	
	TC = 70℃		-11	
Pulsed Drain Current (Note 2)		IDM	-15	
Avalanche Current(L=0.1mH)		IAS	15	A
Avalanche energy(L=0.1mH)		EAS	11.25	mJ
Power Dissipation (Note1)	TA = 25℃	PD	1.7	W
	TC = 25℃		20	
Operating Junction and Storage Temperature Range		TJ,Tstg	-55~+150	℃

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Max	Unit
Thermal Resistance,Junction-to-Ambient(Note 1)	RθJA	71	℃/W
Thermal Resistance,Junction-to-Case	RθJC	6	

1.Surface mounted on "1.5 x 1.5" FR4 board using 1 sq in pad, 2 oz Cu.

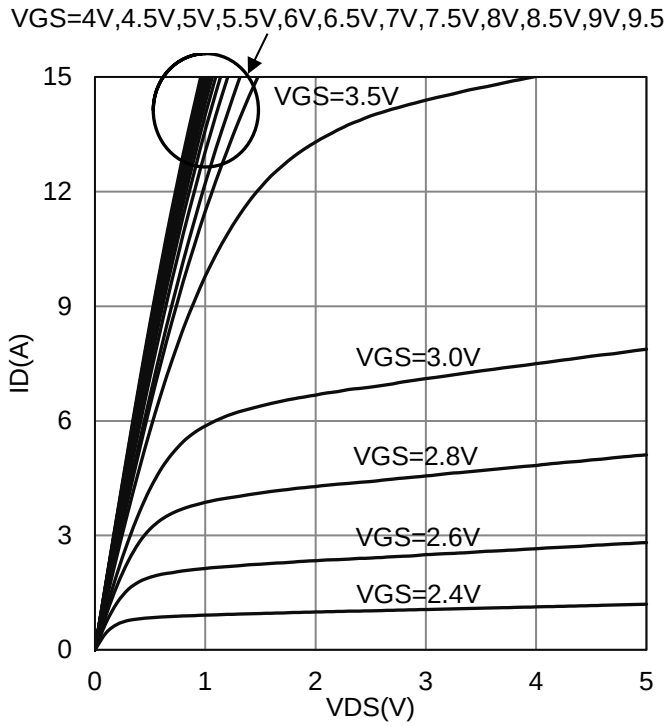
2.Pulse width limited by maximum junction temperature

6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

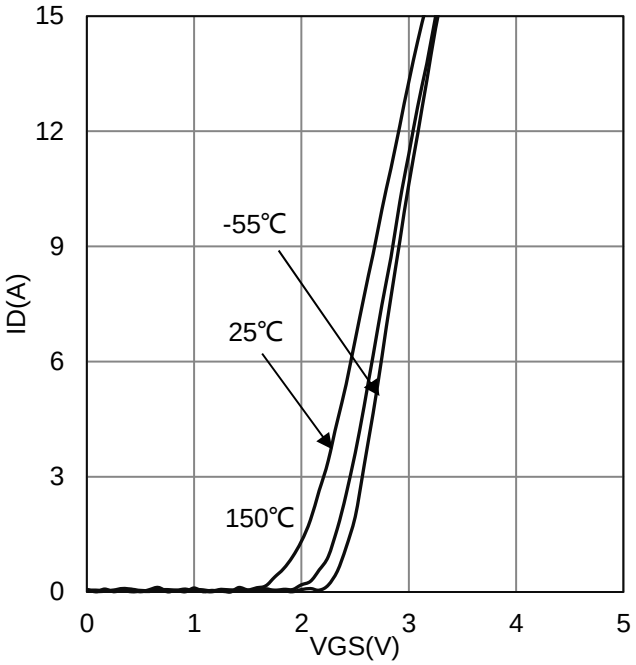
Characteristic		Symbol	Min.	Typ.	Max.	Unit
Static						
Drain–Source Breakdown Voltage (VGS = 0 V, ID = -250 μA)		VBRDSS	-60	-	-	V
Gate Threshold Voltage (VDS = VGS , ID = -250 μA)		VGS(th)	-1	-	-2.5	V
Gate Leakage Current (VDS = 0 V, VGS = ± 20 V)		IGSS	-	-	±100	nA
Zero Gate Voltage Drain Current (VDS = -48 V, VGS = 0 V)		IDSS	-	-	-1	μA
Drain-Source On-Resistance(Note 3)		RDS(ON)				mΩ
(VGS = -10 V, ID = -3.6 A)			-	-	60	
(VGS = -4.5 V, ID = -2.5 A)			-	-	85	
Diode Forward Voltage (IS = -1 A, VGS = 0 V)		VSD	-	-	-1.2	V
Dynamic						
Total Gate Charge	(VDS= -30 V, VGS = -4.5 V, ID= -3.6 A)	Qg	-	9	-	nC
Gate-Source Charge		Qgs	-	2.9	-	
Gate-Drain Charge		Qgd	-	3.5	-	
Turn-On Delay Time	(VDS = -30 V, RL = 3 Ω,ID = -10 A,VGEN = -10 V, RGEN = 6 Ω)	td(on)	-	6.6	-	ns
Rise Time		tr	-	8	-	
Turn-Off Delay Time		td(off)	-	55	-	
Fall Time		tf	-	21	-	
Input Capacitance	(VDS = -30 V, VGS = 0 V, f = 1 MHz)	Ciss	-	1170	-	pF
Output Capacitance		Coss	-	61	-	
Reverse Transfer Capacitance		Crss	-	46	-	

3.Pulse test: PW ⩽ 300us duty cycle ⩽ 2%.

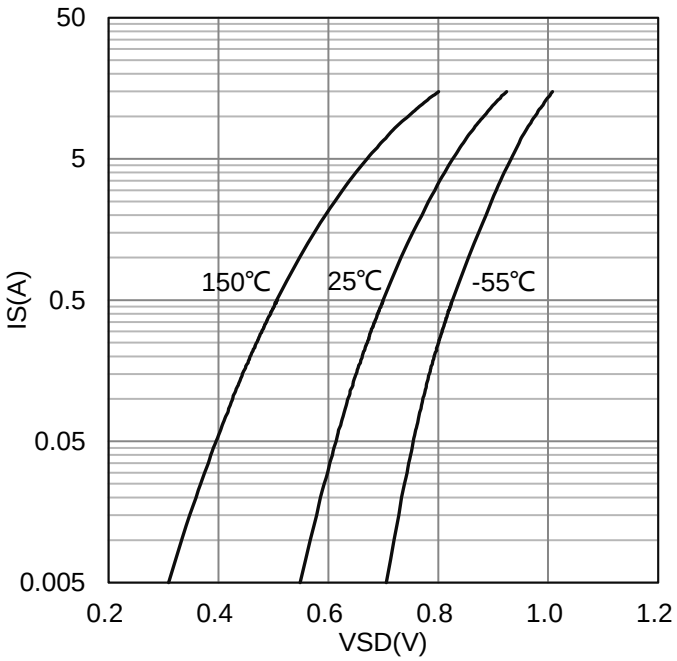
7. ELECTRICAL CHARACTERISTICS CURVES



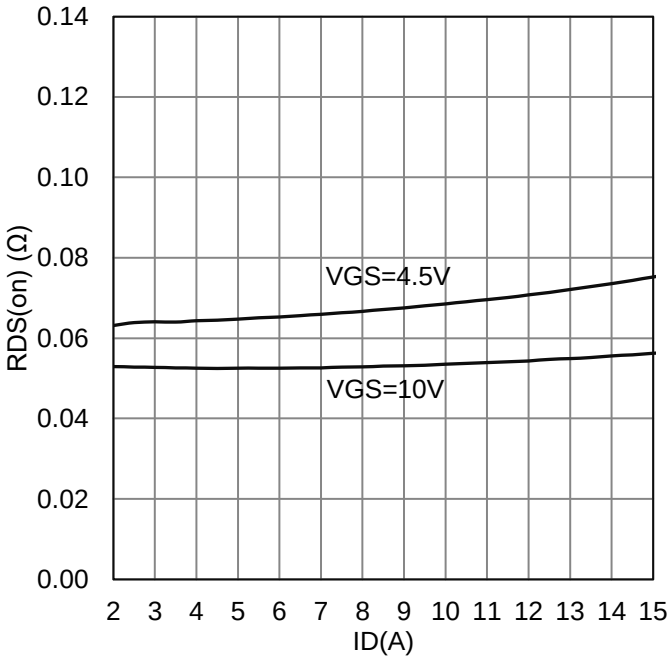
ID vs. VDS



ID vs. VGS

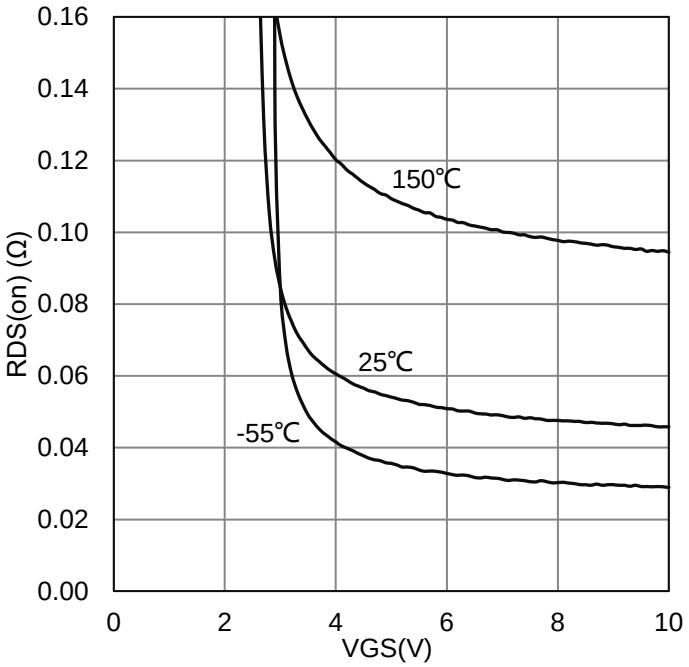


IS vs. VSD

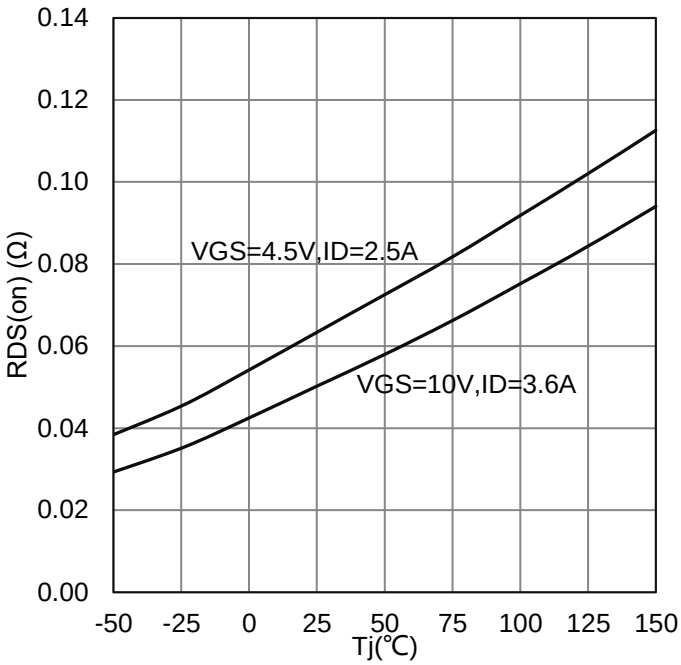


RDS(on) vs. ID

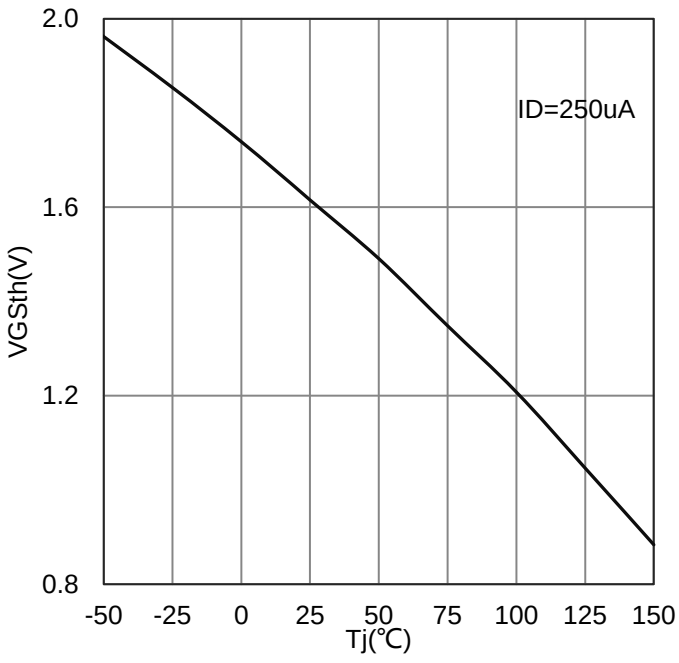
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



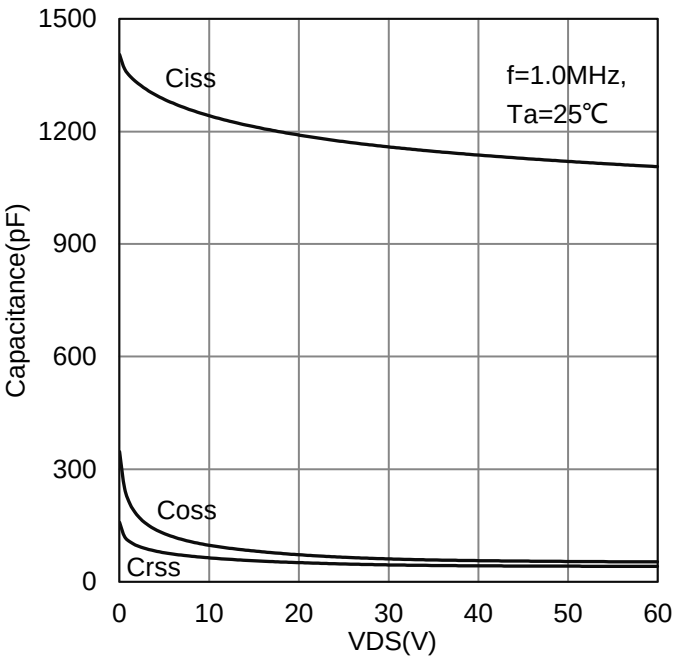
RDS(on) vs. VGS



RDS(on) vs. Tj

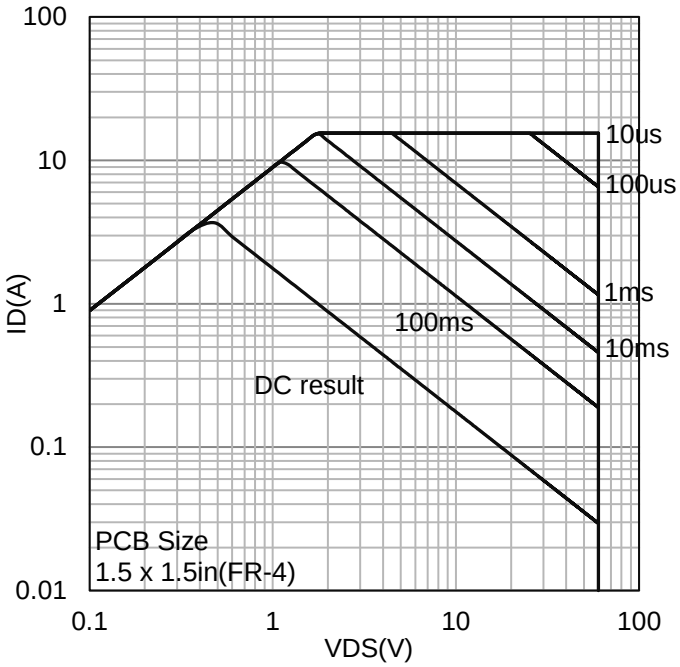


VGSth vs. Tj

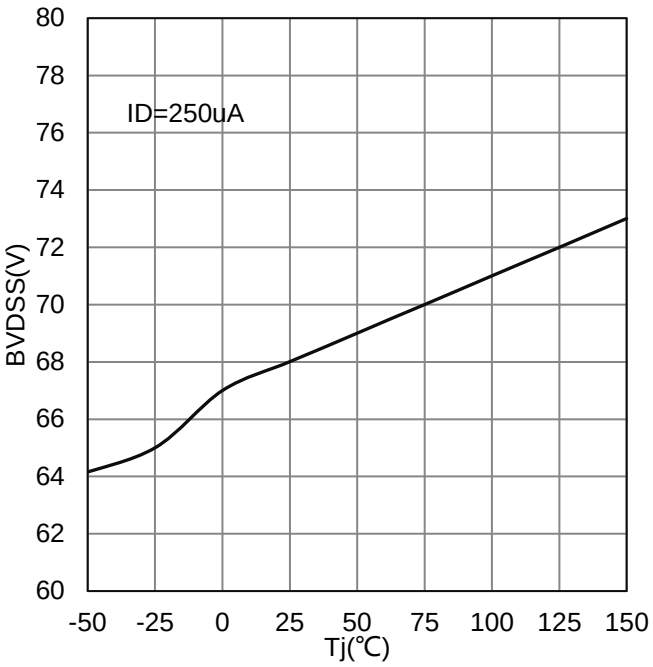


Capacitance

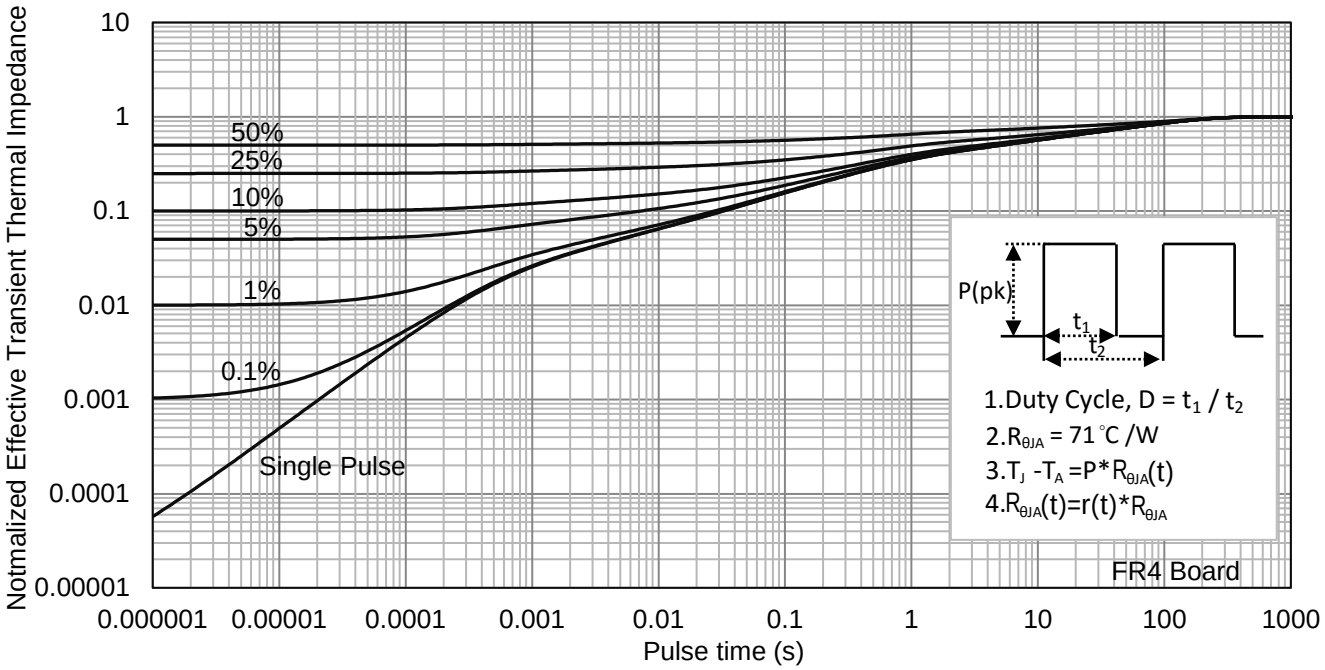
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



Safe Operating Area

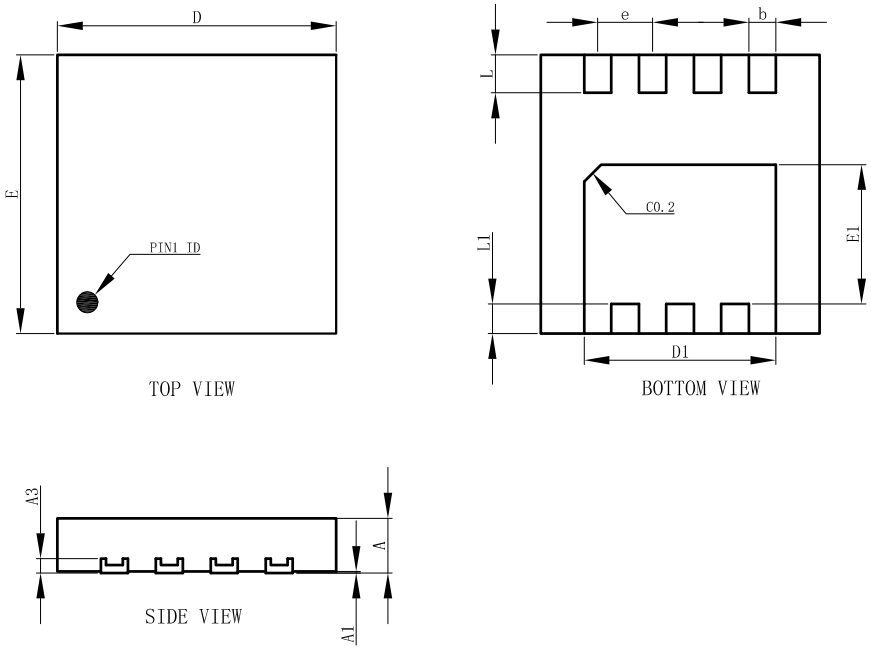


BVDSS vs. Tj



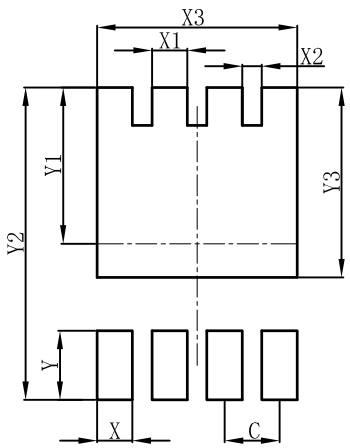
Thermal Response

8.OUTLINE AND DIMENSIONS



DFN3333-8A			
DIM	MIN	NOR	MAX
A	0.60	0.65	0.70
A1	0.00	0.03	0.05
b	0.27	0.32	0.37
D	3.25	3.30	3.35
E	3.25	3.30	3.35
D1	2.22	2.27	2.32
E1	1.60	1.65	1.70
e	0.65BSC		
L	0.40	0.45	0.50
L1	0.30	0.35	0.40
A3	0.152REF.		
All Dimensions in mm			

9.SOLDERING FOOTPRINT



DFN3333-8A	
DIM	(mm)
C	0.65
X	0.42
X1	0.42
X2	0.23
X3	2.37
Y	0.70
Y1	1.85
Y2	3.70
Y3	2.25

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