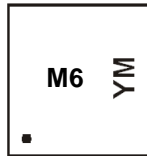


Marking Information

Site 1



M6 = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: H = 2020)
M = Month (ex: 9 = September)

Date Code Key

Year	2016	...	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Code	D	...	H	I	J	K	L	M	N	O	P	R

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Site 2



M6 = Product Type Marking Code
YWX = Date Code Marking
Y = Year (ex: 0 = 2020)
W = Week (ex: a = Week 27; z Represents Week 52 and 53)
X = Internal Code (ex: U = Monday)

Date Code Key

Year	2016	...	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Code	6	...	0	1	2	3	4	5	6	7	8	9

Week	1-26	27-52	53
Code	A-Z	a-z	z

Internal Code	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Code	T	U	V	W	X	Y	Z

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic			Symbol	Value	Unit	
Drain-Source Voltage			V _{DSS}	30	V	
Gate-Source Voltage			V _{GSS}	±12	V	
Continuous Drain Current (Note 6) V _{GS} = 4.5V	Steady State	T _A = +25°C	I _D	5.0	A	
		T _A = +70°C		4.0		
Maximum Continuous Body Diode Forward Current (Note 6)			I _S	1.5	A	
Pulsed Drain Current (10μs Pulse, Duty Cycle = 1%)			I _{DM}	25	A	
Avalanche Current (Note 7) L = 0.1mH			I _{AS}	11	A	
Avalanche Energy (Note 7) L = 0.1mH			E _{AS}	6	mJ	

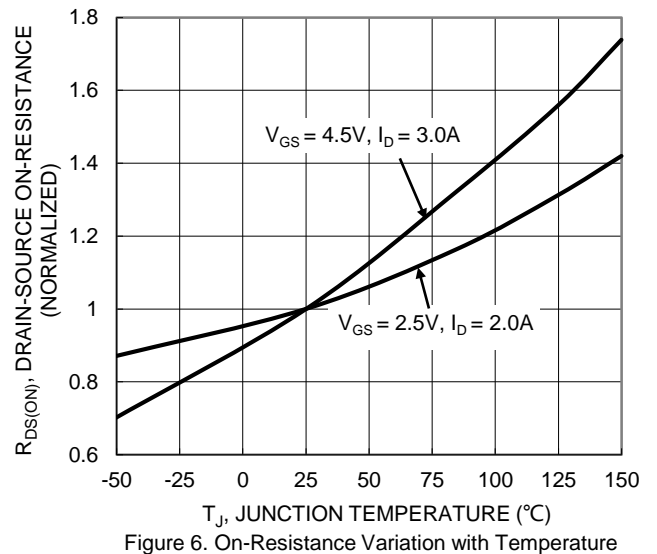
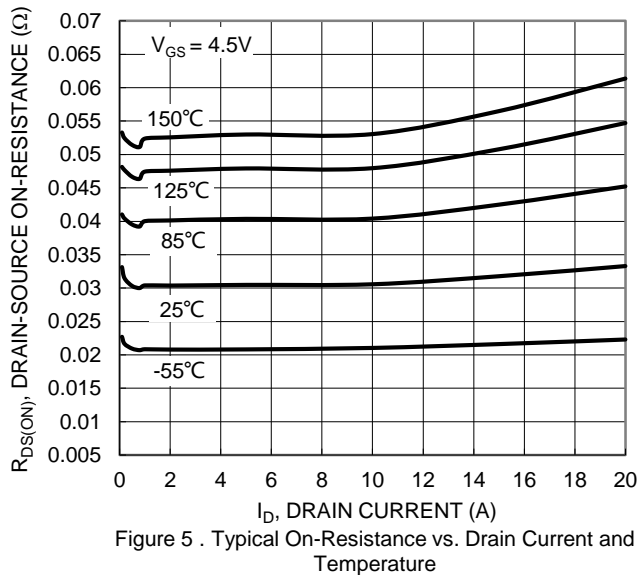
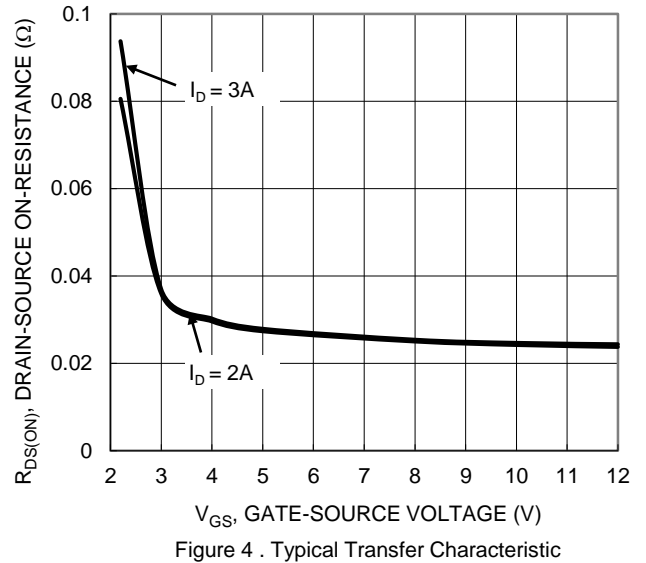
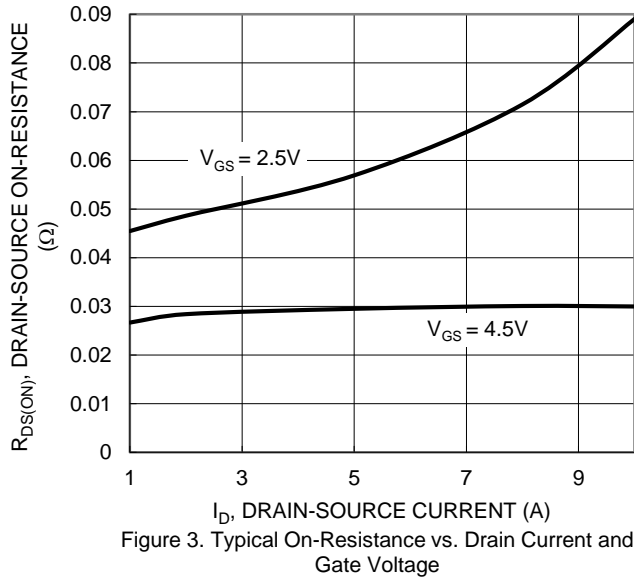
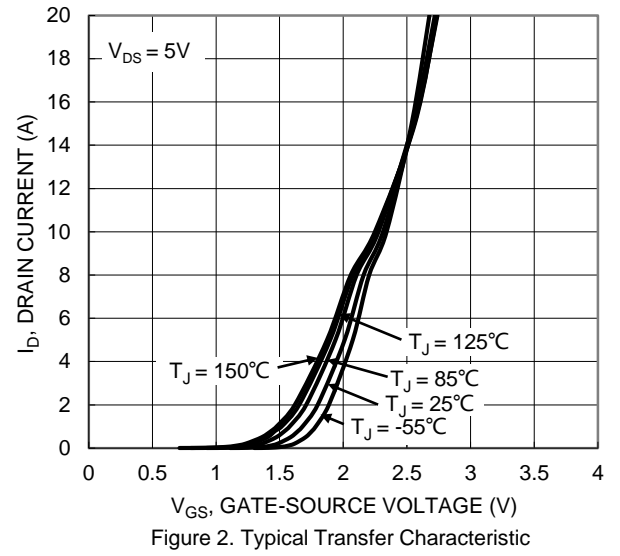
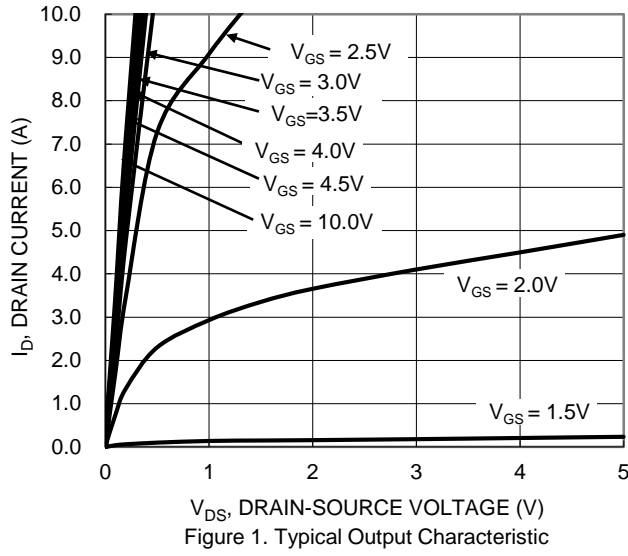
Thermal Characteristics

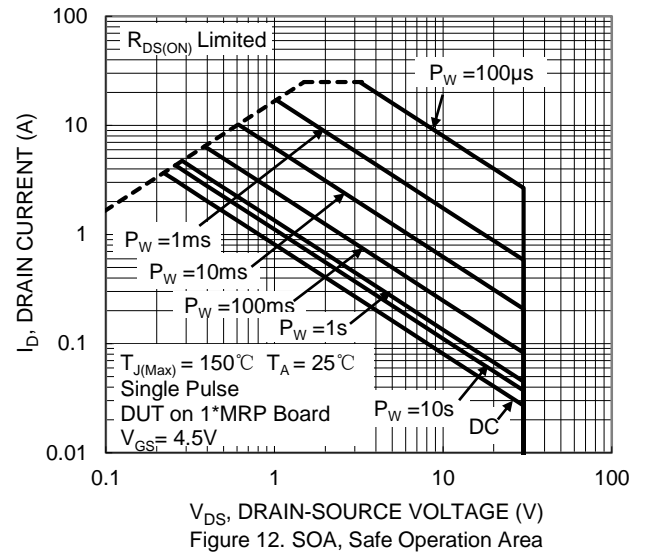
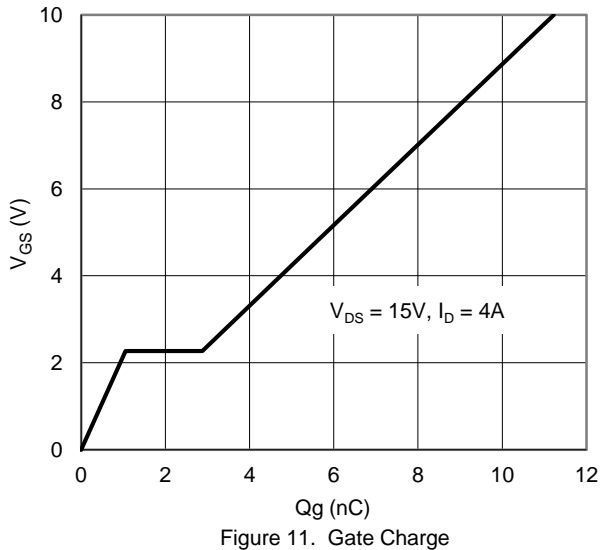
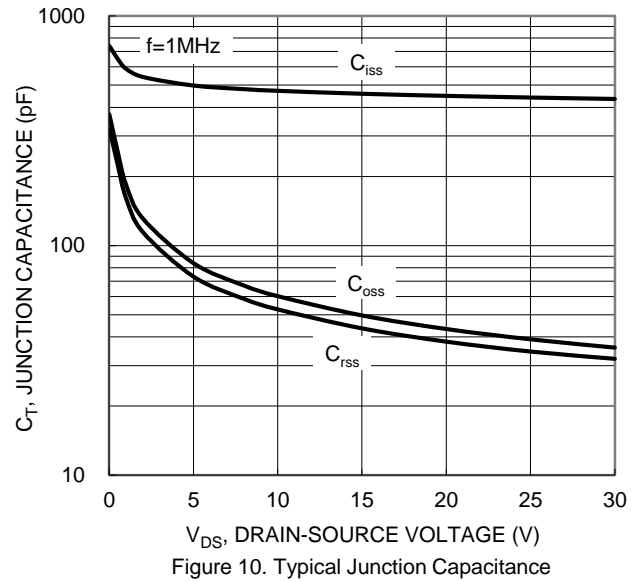
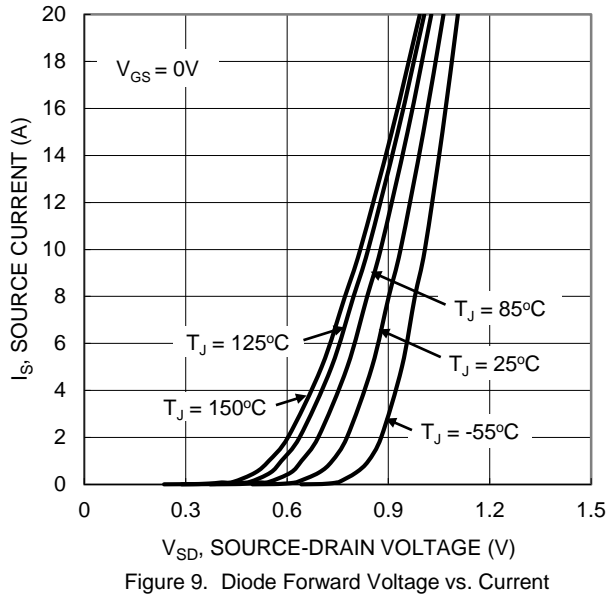
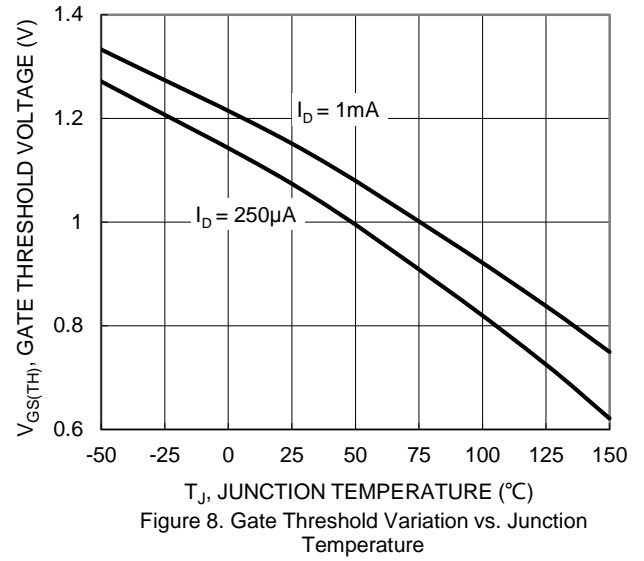
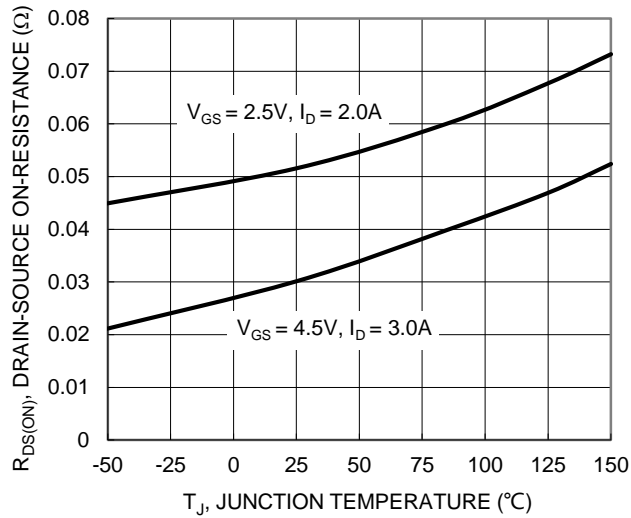
Characteristic		Symbol	Value	Unit
Total Power Dissipation (Note 5)	T _A = +25°C	P _D	0.81	W
	T _A = +70°C		0.52	
Thermal Resistance, Junction to Ambient (Note 5)	Steady State	R _{θJA}	132	°C/W
	t < 10s		101	
Total Power Dissipation (Note 6)	T _A = +25°C	P _D	1.36	W
	T _A = +70°C		0.87	
Thermal Resistance, Junction to Ambient (Note 6)	Steady State	R _{θJA}	83	°C/W
	t < 10s		60	
Thermal Resistance, Junction to Case (Note 6)		R _{θJC}	10	
Operating and Storage Temperature Range		T _J , T _{STG}	-55 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 8)						
Drain-Source Breakdown Voltage	BV _{DSS}	30	—	—	V	V _{GS} = 0V, I _D = 250μA
Zero Gate Voltage Drain Current, T _J = +25°C	I _{DSS}	—	—	1.0	μA	V _{DS} = 30V, V _{GS} = 0V
Gate-Source Leakage	I _{GSS}	—	—	±100	nA	V _{GS} = ±12V, V _{DS} = 0V
ON CHARACTERISTICS (Note 8)						
Gate Threshold Voltage	V _{GS(TH)}	0.5	—	1.5	V	V _{DS} = V _{GS} , I _D = 250μA
Static Drain-Source On-Resistance	R _{DS(ON)}	—	32	40	mΩ	V _{GS} = 4.5V, I _D = 3A
		—	52	75		V _{GS} = 2.5V, I _D = 2A
Diode Forward Voltage	V _{SD}	—	0.8	1.2	V	V _{GS} = 0V, I _S = 2A
DYNAMIC CHARACTERISTICS (Note 9)						
Input Capacitance	C _{iss}	—	458	—	pF	V _{DS} = 15V, V _{GS} = 0V, f = 1.0MHz
Output Capacitance	C _{oss}	—	50	—	pF	
Reverse Transfer Capacitance	C _{rss}	—	44	—	pF	
Gate Resistance	R _g	—	2.1	—	Ω	V _{DS} = 0V, V _{GS} = 0V, f = 1MHz
Total Gate Charge (V _{GS} = 10V)	Q _g	—	11.2	—	nC	V _{DS} = 15V, I _D = 4A
Total Gate Charge (V _{GS} = 4.5V)	Q _g	—	5.3	—	nC	
Gate-Source Charge	Q _{gs}	—	1.1	—	nC	
Gate-Drain Charge	Q _{gd}	—	1.8	—	nC	
Turn-On Delay Time	t _{D(ON)}	—	1.8	—	ns	V _{DS} = 15V, V _{GS} = 10V, R _g = 6Ω, R _L = 3.75Ω
Turn-On Rise Time	t _r	—	2.6	—	ns	
Turn-Off Delay Time	t _{D(OFF)}	—	9.5	—	ns	
Turn-Off Fall Time	t _f	—	2.1	—	ns	I _F = 3A, di/dt = 100A/μs
Reverse Recovery Time	t _{RR}	—	7.0	—	ns	
Reverse Recovery Charge	Q _{RR}	—	1.8	—	nC	

- Notes:
- Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.
 - Device mounted on FR-4 substrate PC board, 2oz copper, with 1inch square copper plate.
 - I_{AS} and E_{AS} ratings are based on low frequency and duty cycles to keep T_J = +25°C.
 - Short duration pulse test used to minimize self-heating effect.
 - Guaranteed by design. Not subject to product testing.





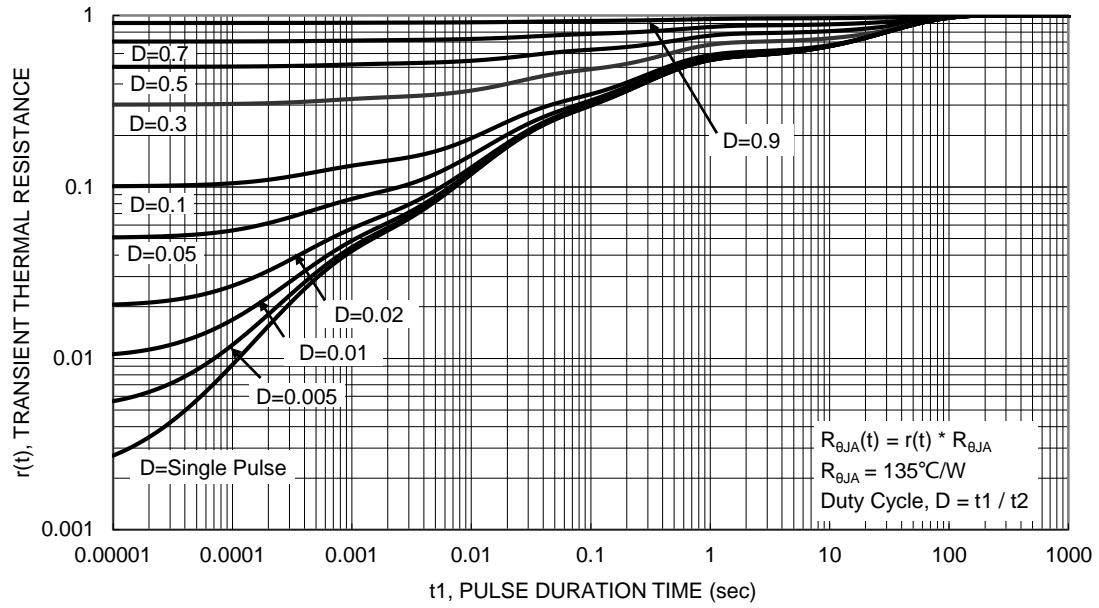
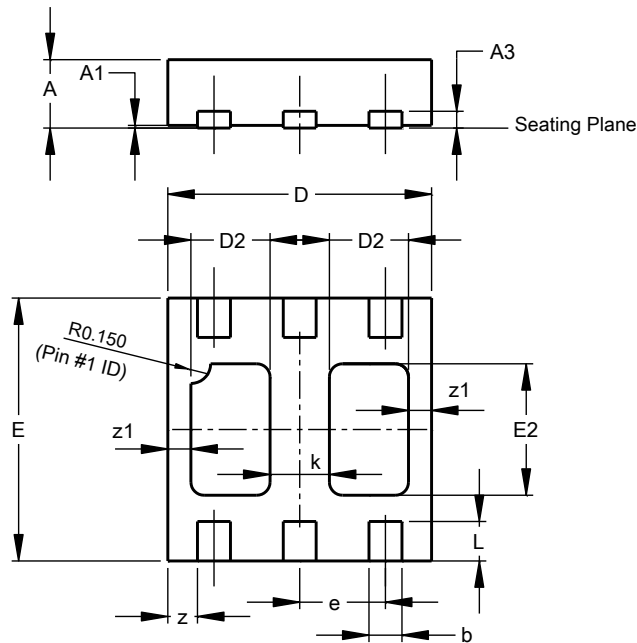


Figure 13. Transient Thermal Resistance

Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

U-DFN2020-6 (Type B)

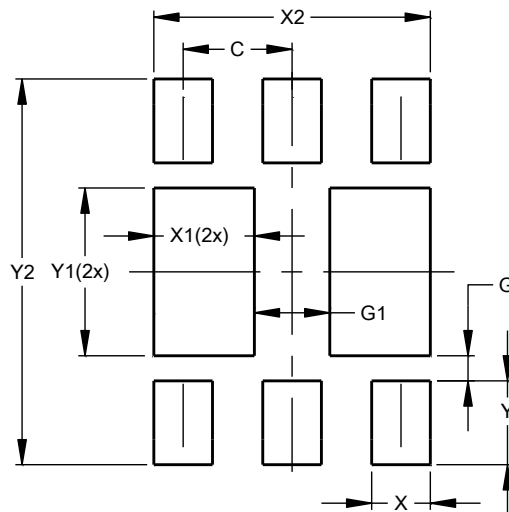


U-DFN2020-6 (Type B)			
Dim	Min	Max	Typ
A	0.545	0.605	0.575
A1	0.00	0.05	0.02
A3	-	-	0.13
b	0.20	0.30	0.25
D	1.95	2.075	2.00
D2	0.50	0.70	0.60
e	-	-	0.65
E	1.95	2.075	2.00
E2	0.90	1.10	1.00
k	-	-	0.45
L	0.25	0.35	0.30
z	-	-	0.225
z1	-	-	0.175
All Dimensions in mm			

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

U-DFN2020-6 (Type B)



Dimensions	Value (in mm)
C	0.650
G	0.150
G1	0.450
X	0.350
X1	0.600
X2	1.650
Y	0.500
Y1	1.000
Y2	2.300

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