

L2N7002WT1G

Small Signal MOSFET

115 mA, 60V N-Channel SC-70

1. FEATURES

- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- ESD Protected:1000V

2. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
L2N7002WT1G	6C	3000/Tape&Reel
L2N7002WT3G	6C	13000/Tape&Reel

3. MAXIMUM RATINGS(Ta = 25°C)

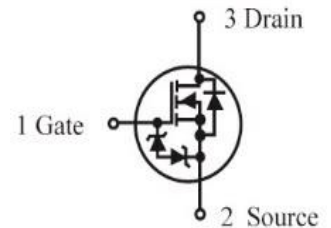
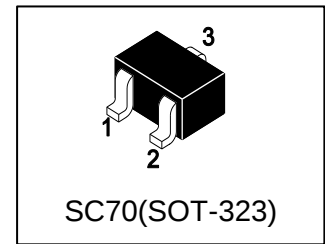
Parameter	Symbol	Limits	Unit
Drain-Source Voltage	VDSS	60	V
Drain-Gate Voltage (RGS = 1.0 MΩ)	VDGR	60	V
Drain Current	ID		mA
– Continuous TC = 25°C		±115	
TC = 100°C		±75	
– Pulsed (Note 1)	IDM	±800	
Gate-Source Voltage			
– Continuous	VGS	±20	V
– Non-repetitive (tp ≤ 50μs)	VGSM	±40	V

4. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Total Device Dissipation, FR-5 Board (Note 2) @ TA = 25°C	PD	225	mW
Derate above 25°C		1.8	mW/°C
Thermal Resistance, Junction-to-Ambient(Note 2)	RθJA	556	°C/W
Junction and Storage temperature	TJ, Tstg	-55~+150	°C

1. Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%.

2. FR-5 = 1.0×0.75×0.062 in.



5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

OFF CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Drain–Source Breakdown Voltage (VGS = 0, ID = 10μA)	VBRDSS	60	-	-	V
Zero Gate Voltage Drain Current TJ = 25°C (VGS = 0, VDS = 60 V) TJ = 125°C	IDSS	-	-	1.0	μA
		-	-	500	
Gate–Body Leakage Current, Forward (VGS = 20 V)	IGSSF	-	-	1.0	μA
Gate–Body Leakage Current, Reverse (VGS = - 20 V)	IGSSR	-	-	-1.0	μA

ON CHARACTERISTICS (Note 3)

Gate Threshold Voltage (VDS = VGS, ID = 250μA)	VGS(th)	1.0	1.6	2.5	V
On–State Drain Current (VDS ≥ 2.0 VDS(on), VGS = 10 V)	ID(on)	500	-	-	mA
Static Drain–Source On–State Voltage (VGS = 10 V, ID = 500 mA) (VGS = 5.0 V, ID = 50 mA)	VDS(on)	-	-	3.75	V
		-	-	0.375	
Static Drain–Source On–State Resistance (VGS = 10 V, ID = 500 mA) TC = 25°C (VGS = 10 V, ID = 500 mA) TC = 125°C (VGS = 5.0 V, ID = 50 mA) TC = 25°C (VGS = 5.0 V, ID = 50 mA) TC = 125°C	RDS(on)	-	-	7.5	Ohms
		-	-	13.5	
		-	-	7.5	
		-	-	13.5	
Forward Transconductance (VDS ≥ 2.0 VDS(on), ID = 200 mA)	gfs	80	-	-	mmhos

DYNAMIC CHARACTERISTICS

Input Capacitance (VDS = 25 V, VGS = 0, f = 1.0 MHz)	Ciss	-	17	50	pF
Output Capacitance (VDS = 25 V, VGS = 0, f = 1.0 MHz)	Coss	-	10	25	pF
Reverse Transfer Capacitance (VDS = 25 V, VGS = 0, f = 1.0 MHz)	Crss	-	2.5	5.0	pF

SWITCHING CHARACTERISTICS

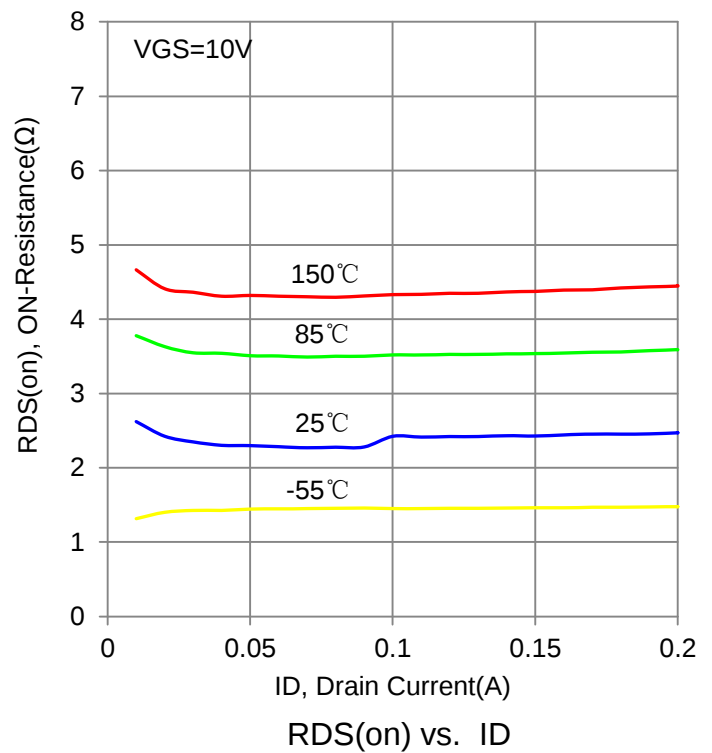
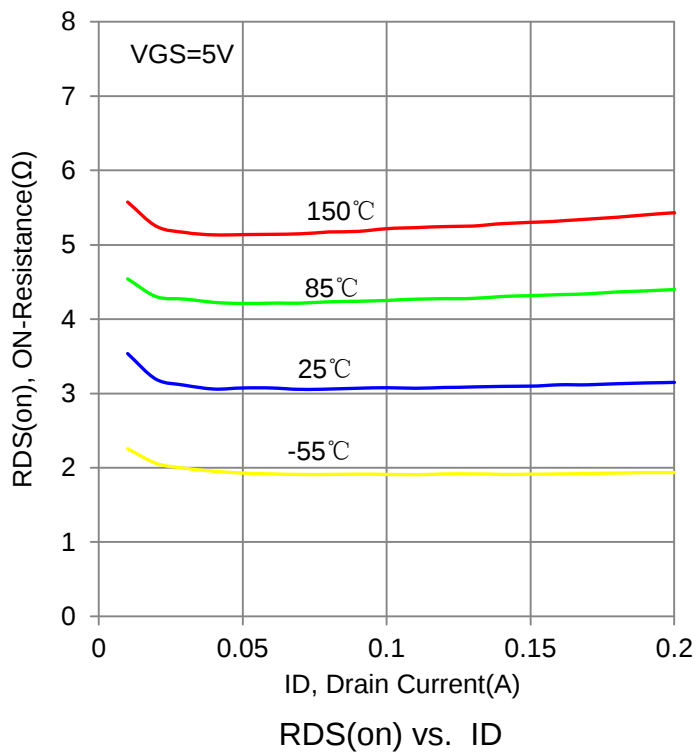
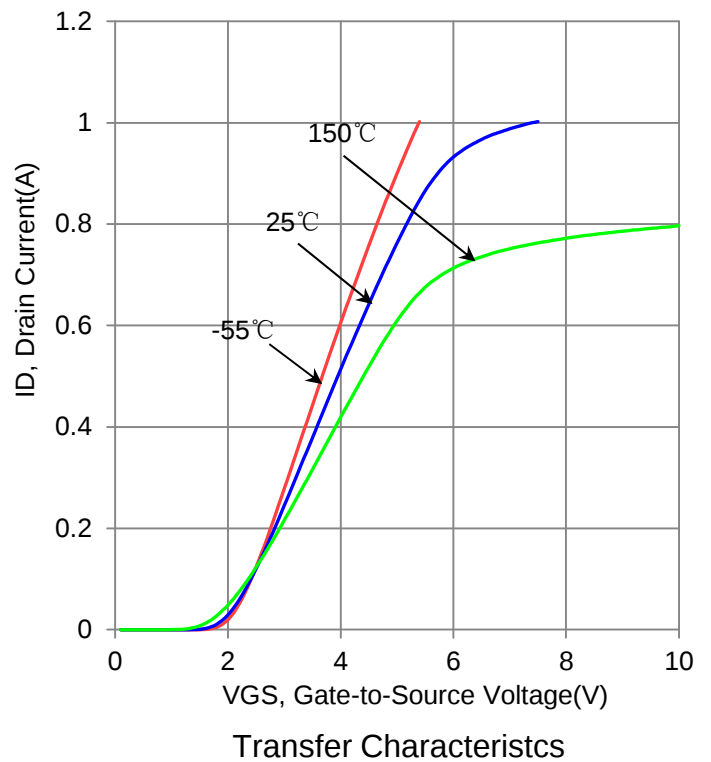
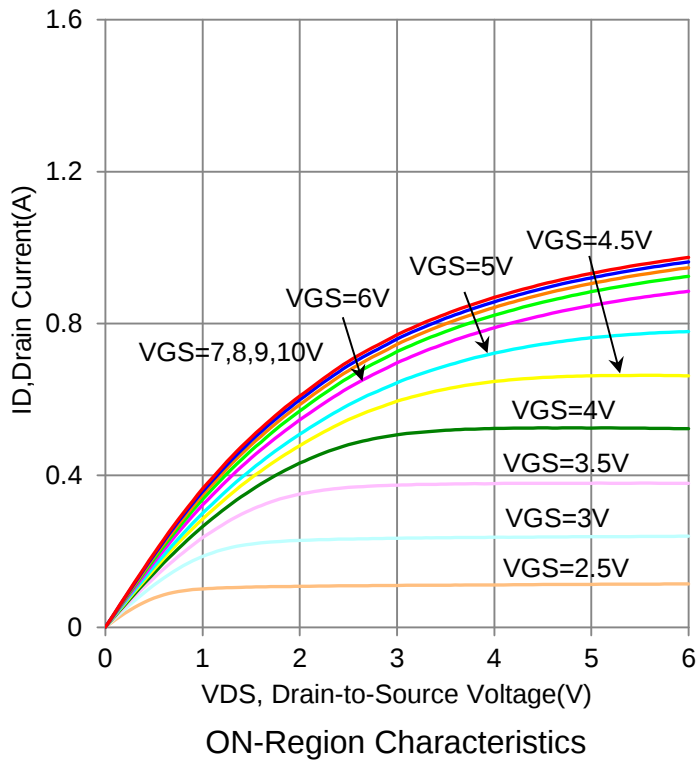
Turn-On Delay Time	(VDD = 25 V, ID = 500 mA, RG = 25Ω, RL = 50 Ω, Vgen = 10 V)	td(on)	-	7	20	ns
Turn-Off Delay Time		td(off)	-	11	40	

BODY–DRAIN DIODE RATINGS

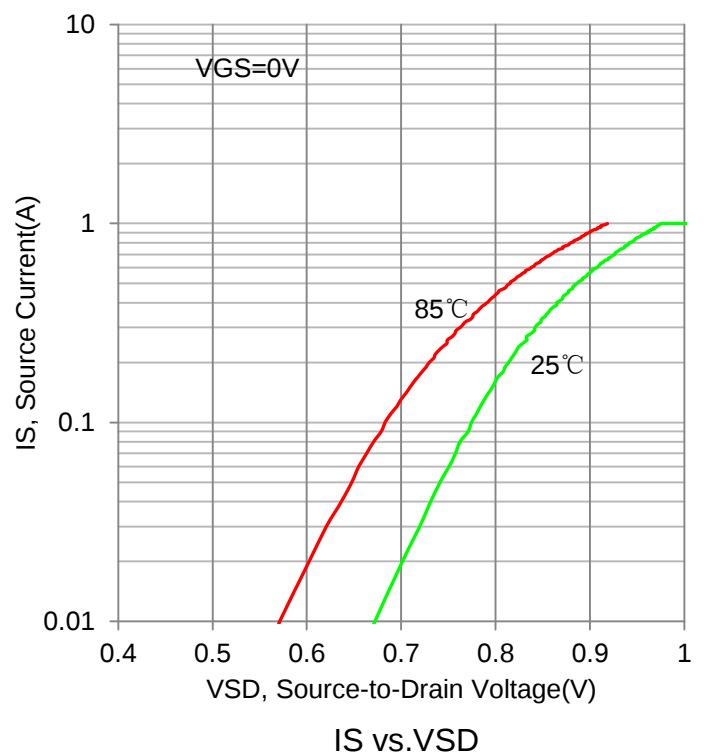
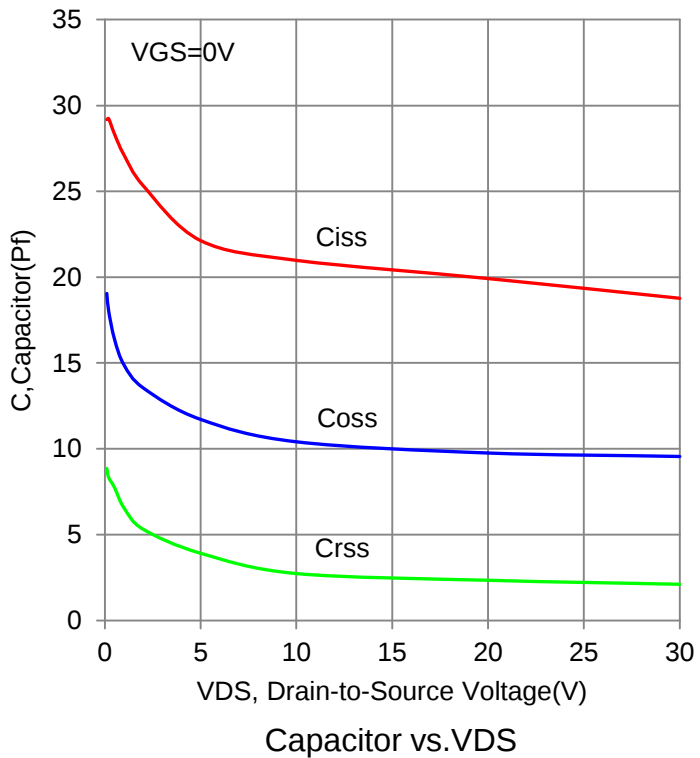
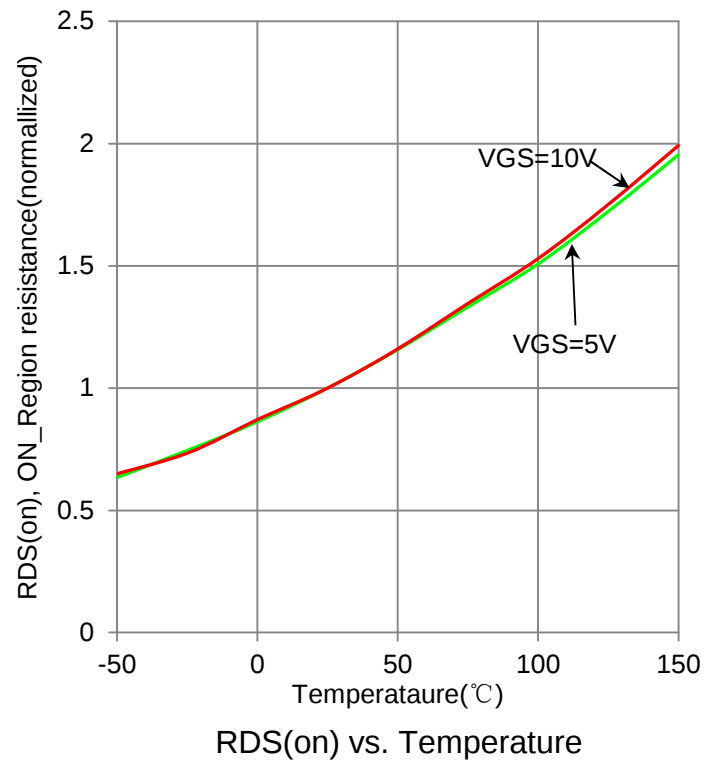
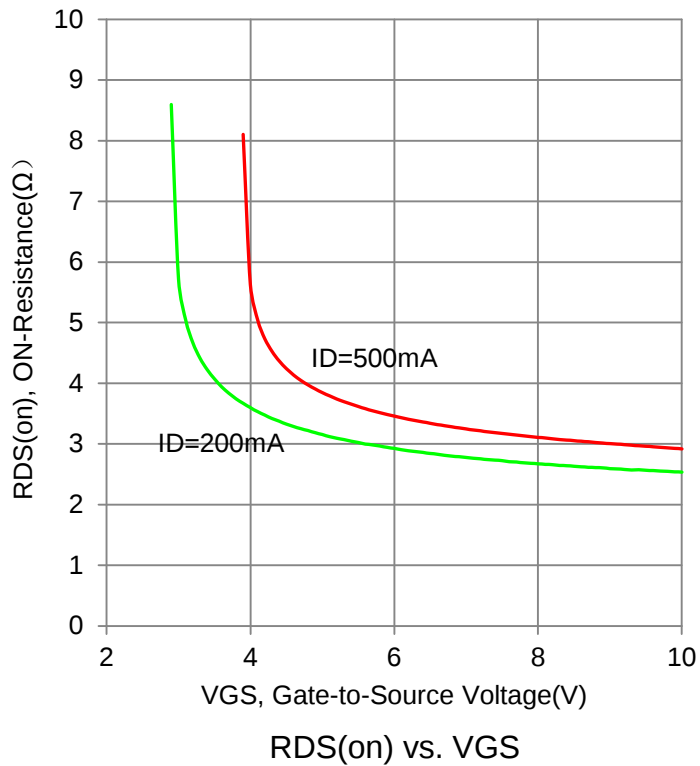
Diode Forward On–Voltage (IS = 115 mA, VGS = 0 V)	VSD	-	-	1.5	V
Source Current Continuous (Body Diode)	IS	-	-	115	mA
Source Current Pulsed	ISM	-	-	800	mA

3. Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%.

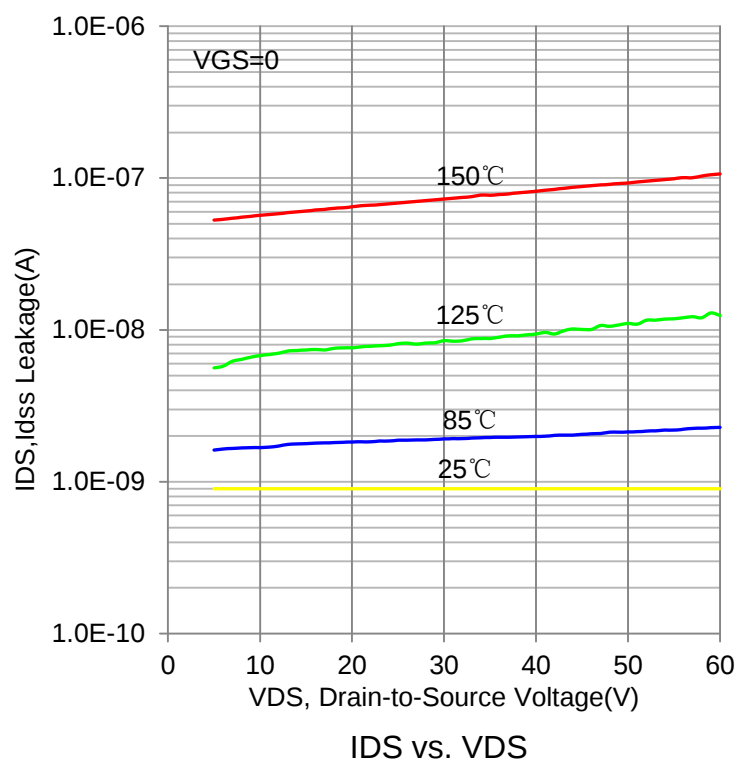
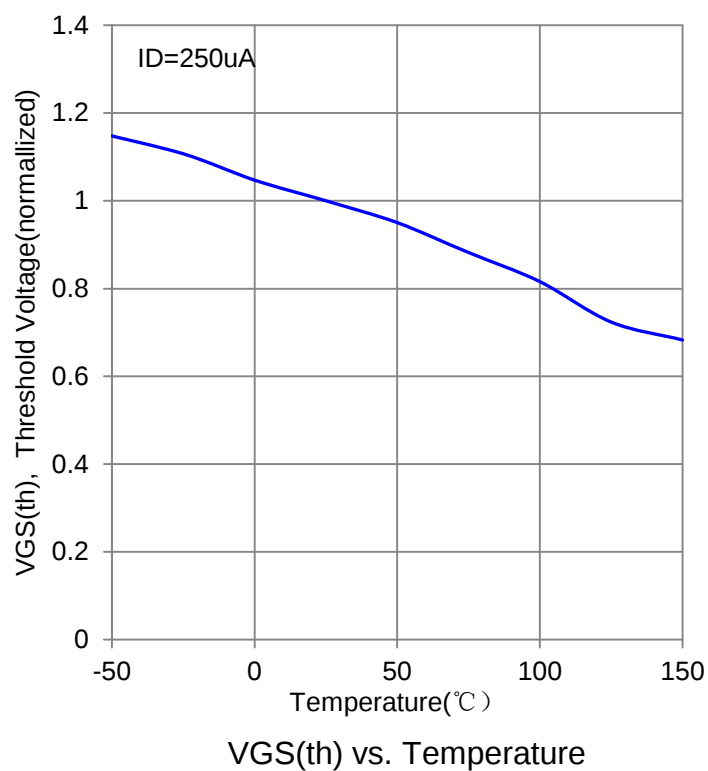
6. ELECTRICAL CHARACTERISTICS CURVES



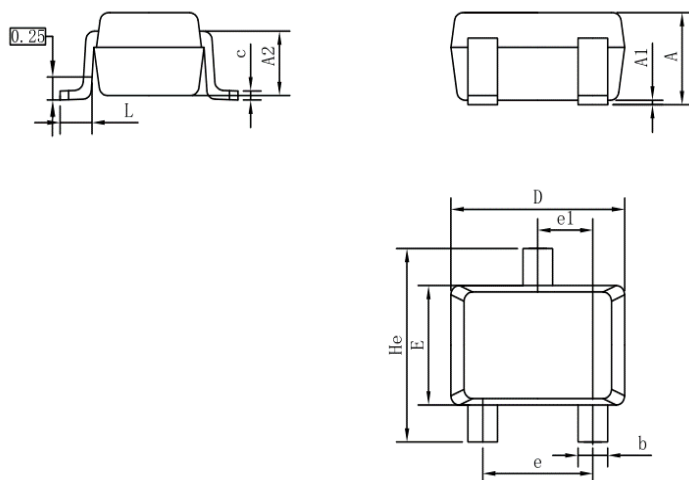
6. ELECTRICAL CHARACTERISTICS CURVES (Con.)



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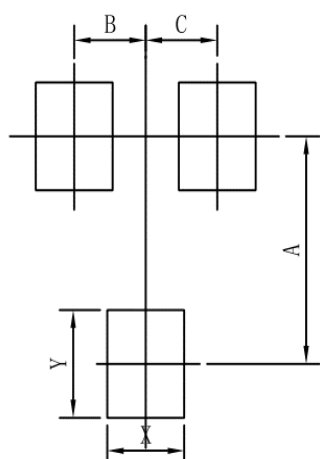


7.OUTLINE AND DIMENSIONS



SC70			
DIM	MIN	NOR	MAX
A	0.80	0.95	1.00
A1	0.00	0.05	0.10
A2	0.7 REF		
b	0.30	0.35	0.40
c	0.10	0.15	0.25
D	1.80	2.05	2.20
E	1.15	1.30	1.35
e	1.20	1.30	1.40
e1	0.65 BSC		
L	0.20	0.35	0.56
He	2.00	2.10	2.40
ALL Dimension in mm			

8.SOLDERING FOOTPRINT



SC70	
DIM	(mm)
A	1.90
B	0.65
C	0.65
X	0.70
Y	0.90

DISCLAIMER

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.
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