



SPP6309

Dual P-Channel Enhancement Mode MOSFET

DESCRIPTION

The SPP6309 is the Dual P-Channel enhancement mode power field effect transistors are produced using high cell density, DMOS trench technology. This high density process is especially tailored to minimize on-state resistance and provide superior switching performance. These devices are particularly suited for low voltage applications such as notebook computer power management and other battery powered circuits where high-side switching, low in-line power loss, and resistance to transients are needed.

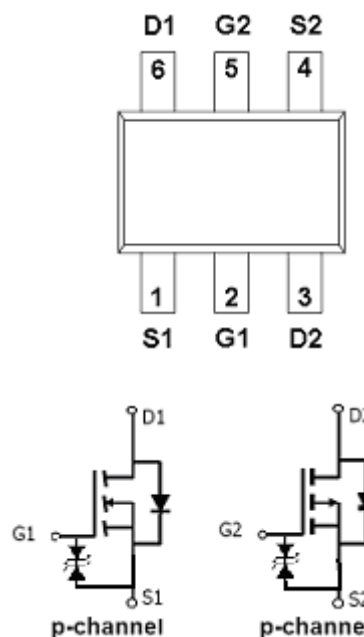
FEATURES

- ◆ P-Channel
 - 20V/1.0A, $R_{DS(ON)} = 520m\Omega @ V_{GS} = -4.5V$
 - 20V/0.8A, $R_{DS(ON)} = 700m\Omega @ V_{GS} = -2.5V$
 - 20V/0.5A, $R_{DS(ON)} = 950m\Omega @ V_{GS} = -1.8V$
- ◆ Super high density cell design for extremely low $R_{DS(ON)}$
- ◆ Exceptional on-resistance and maximum DC current capability
- ◆ SOT-363 (SC-70-6L) package design

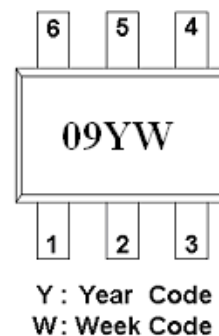
APPLICATIONS

- Power Management in Note book
- Portable Equipment
- Battery Powered System
- DC/DC Converter
- Load Switch
- DSC
- LCD Display inverter

PIN CONFIGURATION(SOT-363 / SC-70-6L)



PART MARKING





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PIN DESCRIPTION

Pin	Symbol	Description
1	S1	Source 1
2	G1	Gate 1
3	D2	Drain 2
4	S2	Source 2
5	G2	Gate 2
6	D1	Drain1

ORDERING INFORMATION

Part Number	Package	Part Marking
SPP6309S36RGB	SOT-363	09YW

※ Week Code : A ~ Z(1 ~ 26) ; a ~ z(27 ~ 52)

※ SPP6309S36RGB : Tape Reel ; Pb – Free ; Halogen – Free

ABSOLUTE MAXIMUM RATINGS

(TA=25°C Unless otherwise noted)

Parameter	Symbol	Typical	Unit
Drain-Source Voltage	VDSS	-20	V
Gate –Source Voltage	VGSS	±12	V
Continuous Drain Current(TJ=150°C)	ID	TA=25°C -1.0	A
		TA=70°C -0.7	
Pulsed Drain Current	IDM	-3	A
Continuous Source Current(Diode Conduction)	IS	-0.6	A
Power Dissipation	PD	TA=25°C 0.35	W
		TA=70°C 0.19	
Operating Junction Temperature	TJ	-55/150	°C
Storage Temperature Range	TSTG	-55/150	°C
Thermal Resistance-Junction to Ambient	RθJA	T ≤ 10sec 360	°C/W
		Steady State 400	



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ELECTRICAL CHARACTERISTICS

(T_A=25°C Unless otherwise noted)

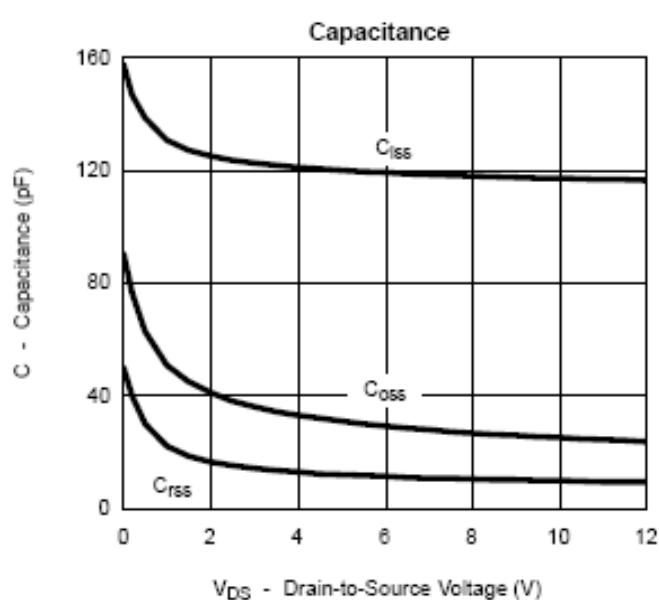
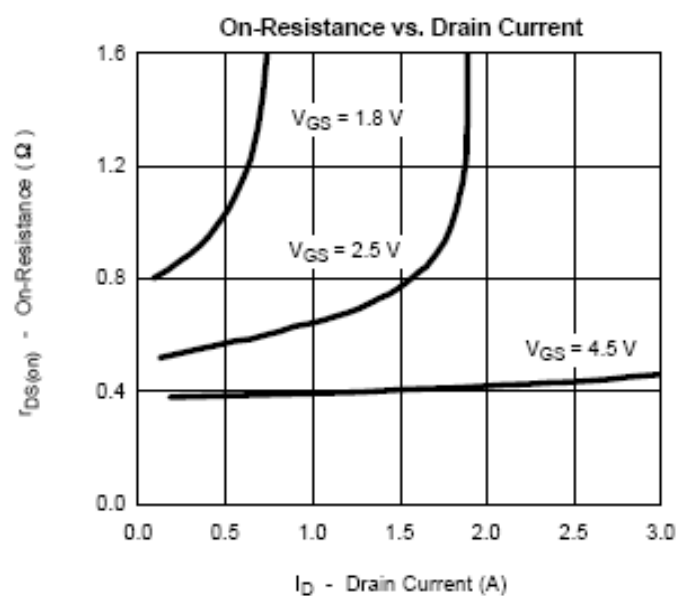
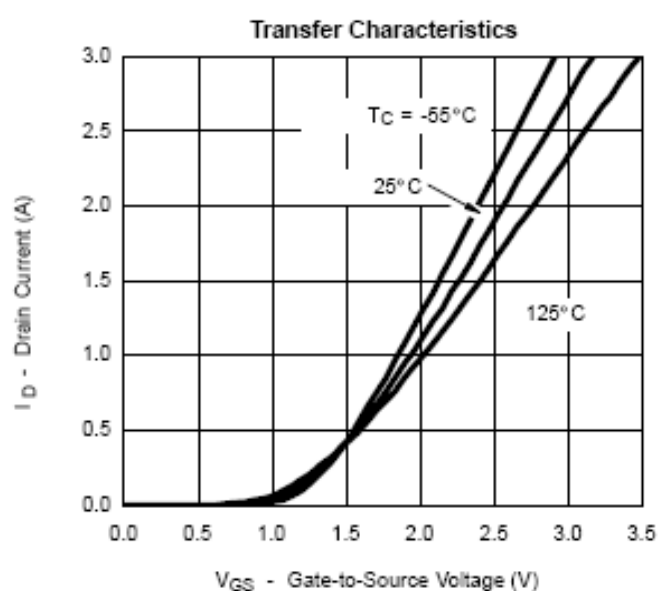
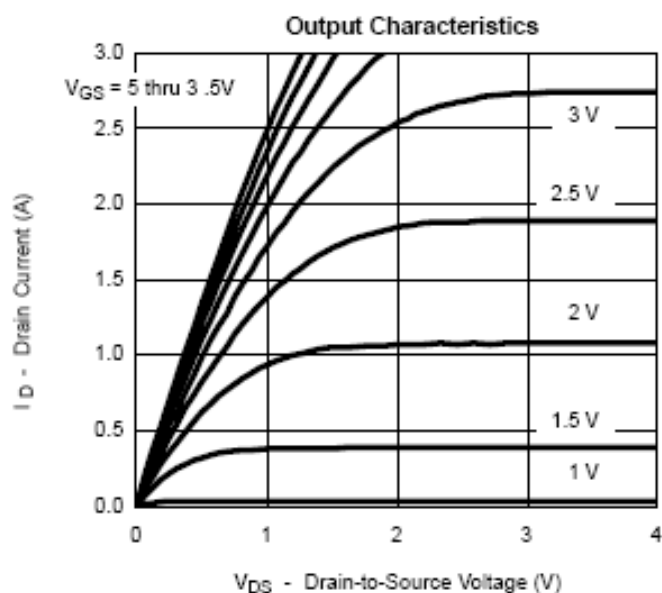
Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
Static						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =-250uA	-20			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250uA	-0.35		-0.8	
Gate Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±12V			±10	uA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-20V, V _{GS} =0V			-1	uA
		V _{DS} =-20V, V _{GS} =0V T _J =55°C			-5	
On-State Drain Current	I _{D(on)}	V _{DS} ≤ -4.5V, V _{GS} =-5V	-2			A
Drain-Source On-Resistance	R _{DSON}	V _{GS} =-4.5V, I _D =-1.0A		0.42	0.52	Ω
		V _{GS} =-2.5V, I _D =-0.8A		0.58	0.70	
		V _{GS} =-1.8V, I _D =-0.5A		0.75	0.95	
Forward Transconductance	g _{fs}	V _{DS} =-10V, I _D =-1.0A		1.5		S
Diode Forward Voltage	V _{SD}	I _S =-0.5A, V _{GS} =0V		-0.8	-1.2	V
Dynamic						
Total Gate Charge	Q _g	V _{DS} = -10V, V _{GS} = -4.5 V I _D = -0.88 A		1.5	2.0	nC
Gate-Source Charge	Q _{gs}			0.3		
Gate-Drain Charge	Q _{gd}			0.2		
Input Capacitance	C _{iss}	V _{DS} =-10V, V _{GS} =0V f=1MHz		145		pF
Output Capacitance	C _{oss}			25		
Reverse Transfer Capacitance	C _{rss}			10		
Turn-On Time	t _{d(on)}	V _{DD} =-10V, R _L =20Ω , I _D ≡-0.5A V _{GEN} =-4.5V , R _G =6Ω		18	30	ns
	t _r			25	40	
Turn-Off Time	t _{d(off)}			15	45	
	t _f			12	20	



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TYPICAL CHARACTERISTICS

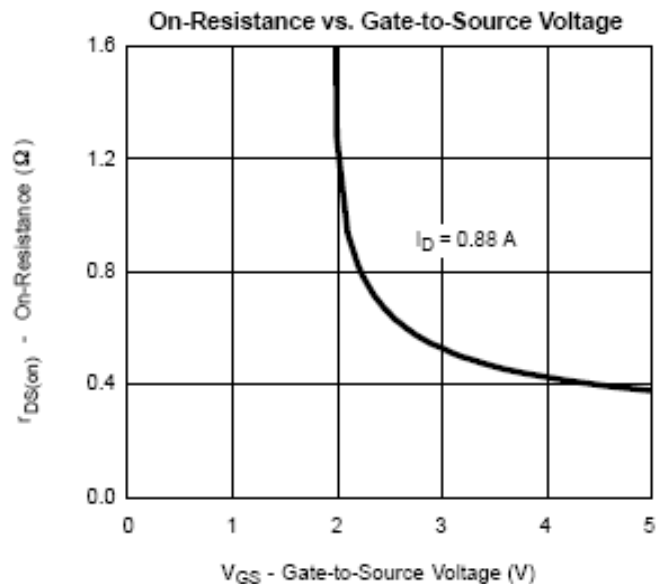
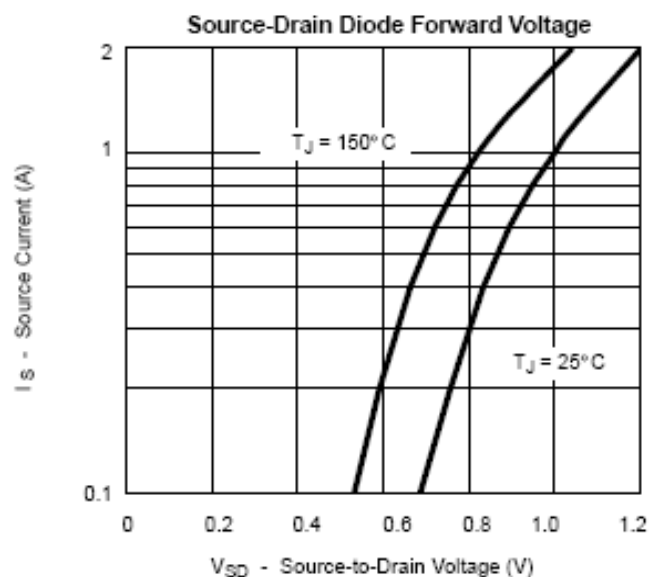
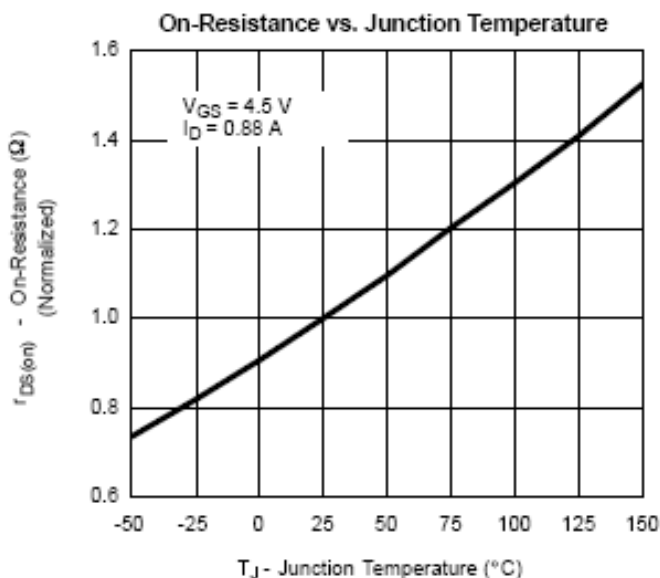
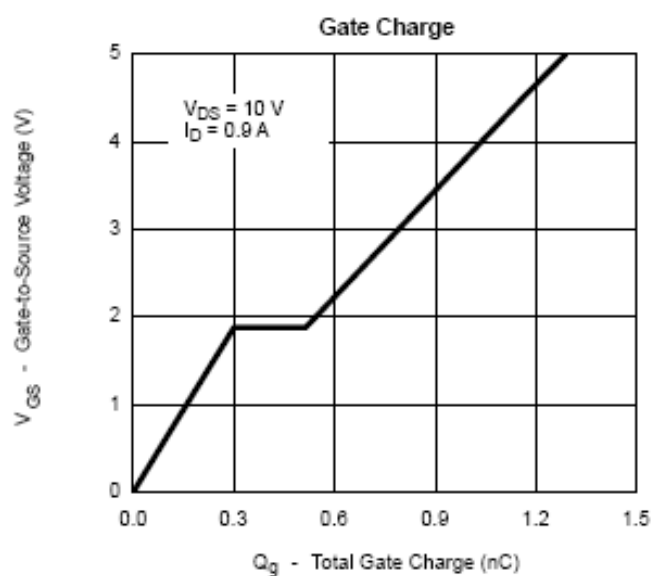




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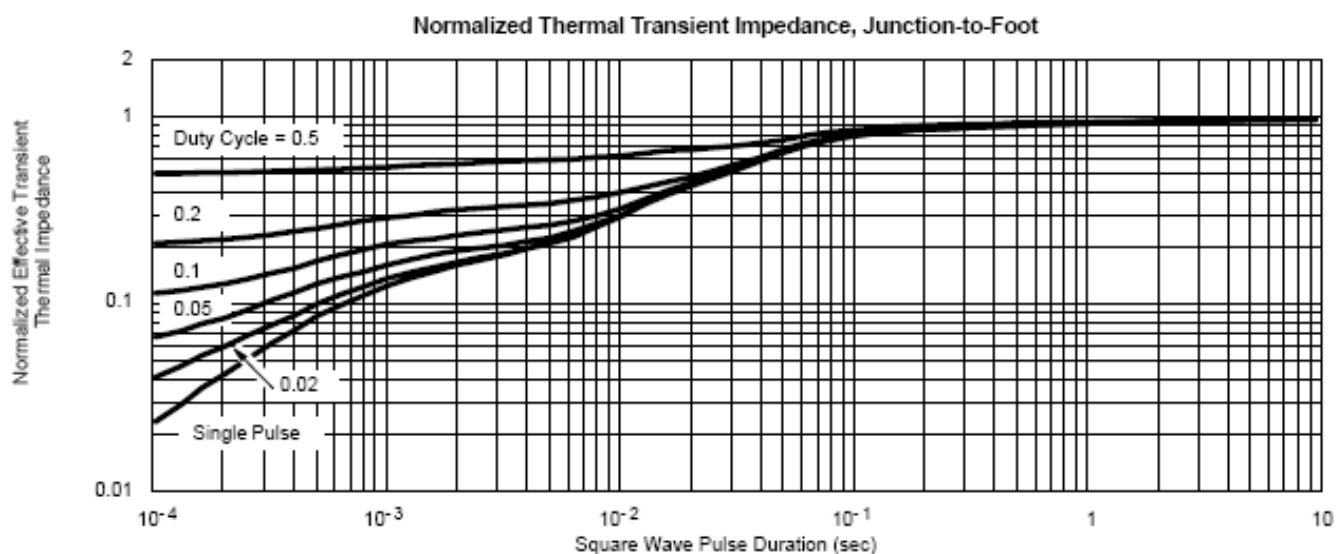
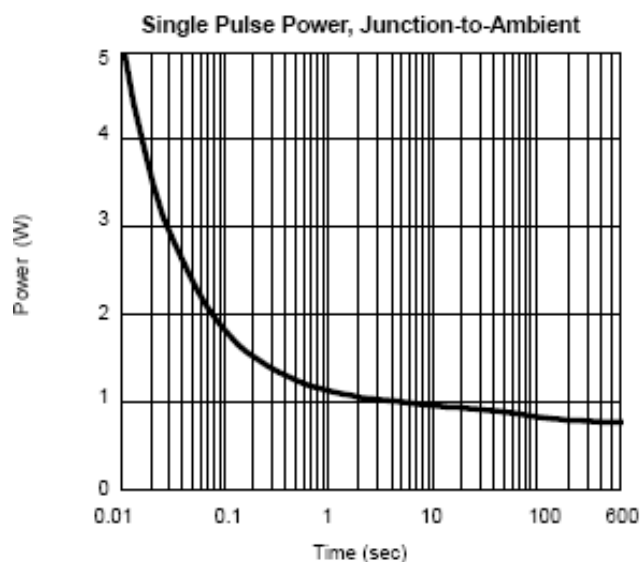
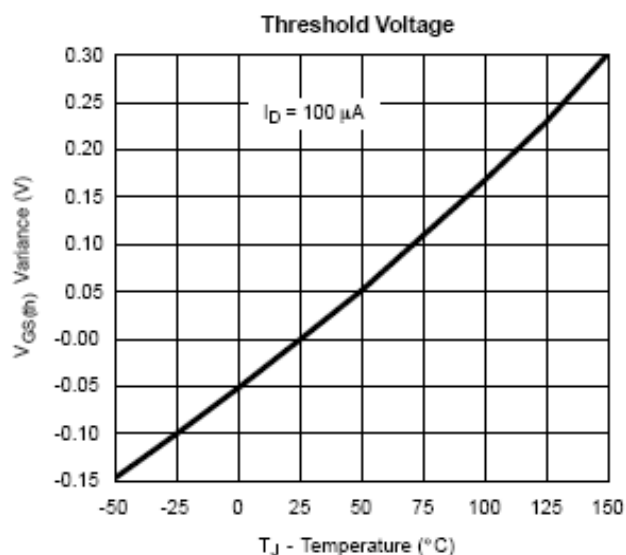




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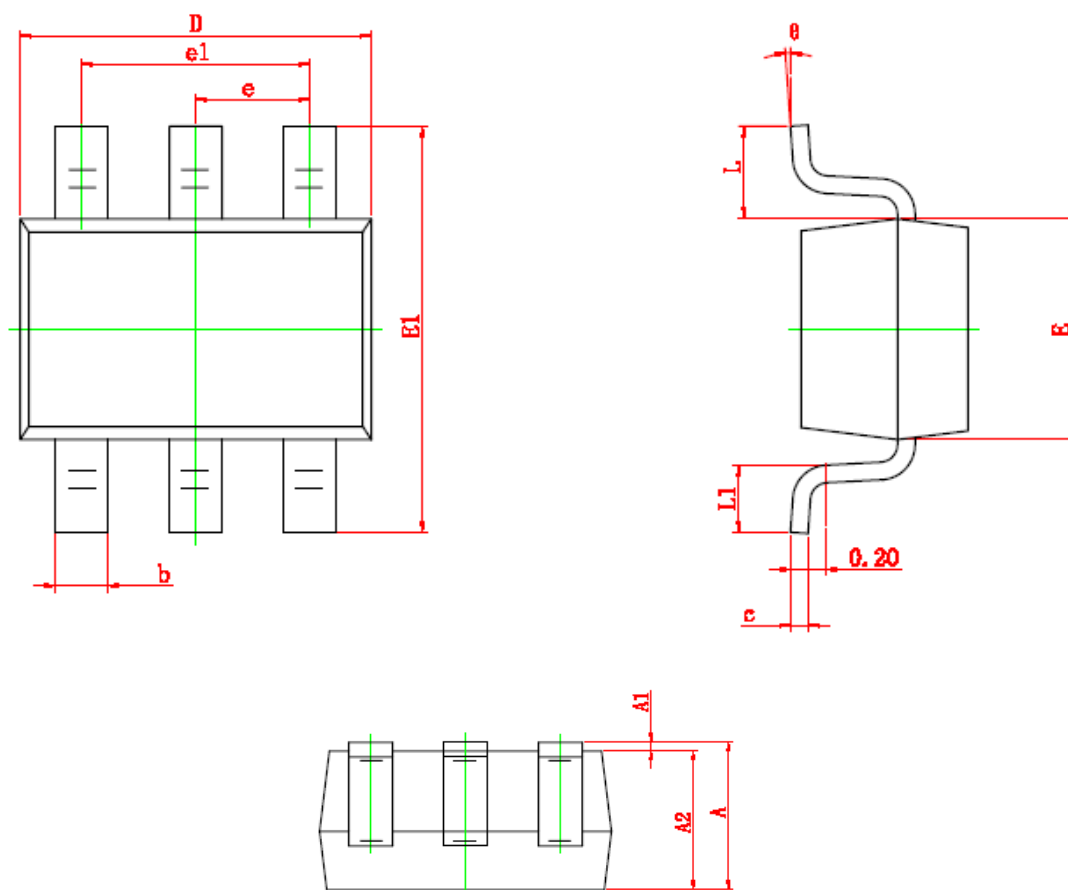




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SOT-363 PACKAGE OUTLINE



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.150	0.350	0.006	0.014
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°



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