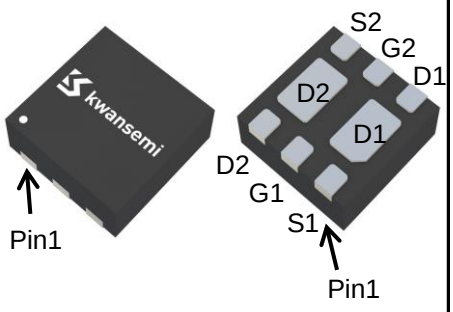
KS2468UA2

Dual N-Channel Advanced Power MOSFET

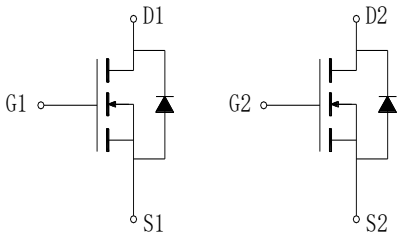
Features

- 20V/6.9A,
  $R_{DS(ON)}$ =23mΩ(Typ.)@V_{GS}=4.5V
  $R_{DS(ON)}$ =32mΩ(Typ.)@V_{GS}=2.5V
- Low $R_{DS(ON)}$
- Super High Dense Cell Design
- Reliable and Rugged

Pin Description



SDFN2020 DP1



Dual N-Channel MOSFET

Applications

- Power Management
- Battery Protection

RoHS Pb HF Halogen-Free

Absolute Maximum Ratings

Symbol	Parameter		Rating	Unit
Common Ratings (T_A=25°C Unless Otherwise Noted)				
V_{DSS}	Drain-Source Voltage		20	V
V_{GSS}	Gate-Source Voltage		±12	
T_J	Maximum Junction Temperature		150	°C
T_J,T_{STG}	Operating and Storage Temperature Range		-55 to 150	°C
I_S	Diode Continuous Forward Current	T_A=25°C	2.3	A
Mounted on Large Heat Sink				
I_{DP} ①	Pulse Drain Current	T_A=25°C	27	A
I_D ②	Continuous Drain Current(V_{GS}=4.5V)	T_A=25°C	6.9	A
		T_A=70°C	5.5	
P_D	Maximum Power Dissipation	T_A=25°C	2	W
		T_A=70°C	1.25	
$R_{\theta JC}$	Thermal Resistance-Junction to Case		25	°C/W
$R_{\theta JA}$ ③	Thermal Resistance-Junction to Ambient		60	°C/W
Drain-Source Avalanche Ratings				
E_{AS} ④	Avalanche Energy, Single Pulsed		20	mJ

Electrical Characteristics (T_A=25°C Unless Otherwise Noted)

Symbol	Parameter	Test Condition	Rating			Unit
			Min.	Typ.	Max.	
Static Characteristics						
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V, I_{DS}=250μA	20			V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=20V, V_{GS}=0V			1	μA
		T_J=125°C			30	
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS}, I_{DS}=250μA	0.5	0.7	1.1	V
I_{GSS}	Gate Leakage Current	V_{GS}=±12V, V_{DS}=0V			±100	nA
$R_{DS(ON)}$ ⑤	Drain-Source On-state Resistance	V_{GS}=4.5V, I_{DS}=3A		23	28	mΩ
		V_{GS}=2.5V, I_{DS}=2A		32	42	mΩ
Diode Characteristics						
V_{SD} ⑤	Diode Forward Voltage	I_{SD}=3A, V_{GS}=0V		0.85	1.2	V
t_{rr}	Reverse Recovery Time	I_{SD}=3A, dI_{SD}/dt=100A/μs		21		ns
Q_{rr}	Reverse Recovery Charge			12		nC
Dynamic Characteristics ⑥						
R_G	Gate Resistance	V_{GS}=0V,V_{DS}=0V,F=1MHz		2.5		Ω
C_{iss}	Input Capacitance	V_{GS}=0V, V_{DS}=10V, Frequency=1.0MHz		415		pF
C_{oss}	Output Capacitance			70		
C_{rss}	Reverse Transfer Capacitance			60		
$t_{d(ON)}$	Turn-on Delay Time	V_{DD}=10V, I_{DS}=3A, V_{GEN}=4.5V,R_G=6Ω		11		ns
t_r	Turn-on Rise Time			15		
$t_{d(OFF)}$	Turn-off Delay Time			39		
t_f	Turn-off Fall Time			26		
Gate Charge Characteristics ⑥						
Q_g	Total Gate Charge	V_{DS}=10V, V_{GS}=4.5V, I_{DS}=3A		6		nC
Q_{gs}	Gate-Source Charge			0.8		
Q_{gd}	Gate-Drain Charge			1.9		

Notes:

①Pulse width limited by safe operating area.

②Calculated continuous current based on maximum allowable junction temperature.

③When mounted on 1 inch square copper board, t≤10sec. The value in any given application depends on the user's specific board design.

④Limited by T_{Jmax}, Starting T_J = 25°C, I_{ASmax} =9A, L=0.5mH, V_{DD} = 12V, R_G = 25Ω, V_{GS}=4.5V.Part not recommended for use above this value.

⑤Pulse test;Pulse width≤300μs, duty cycle≤2%.

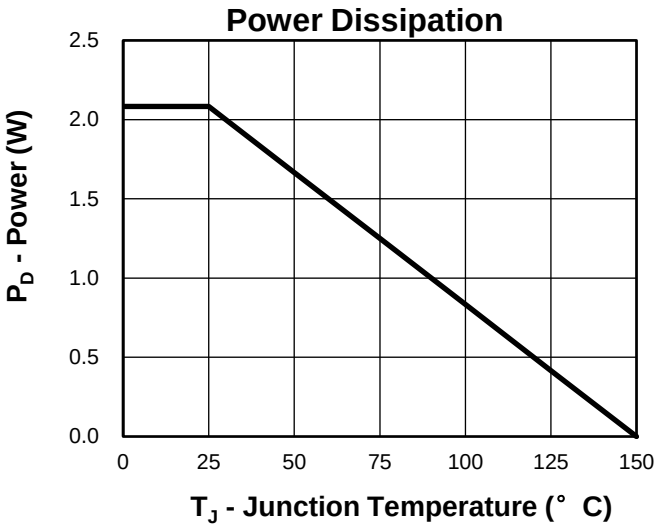
⑥Guaranteed by design, not subject to production testing.

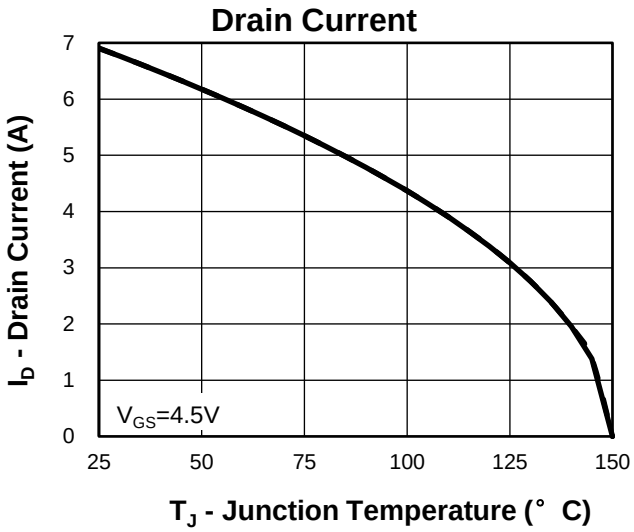
Ordering and Marking Information

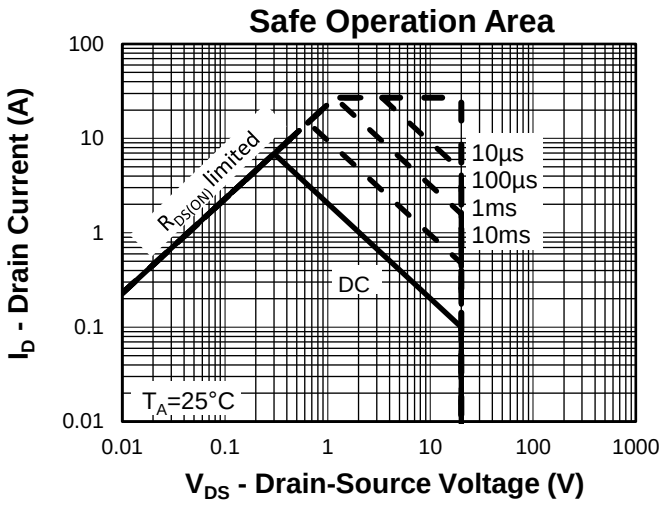
Device	Package	Packaging	Quantity	Reel Size	Tape width
KS2468UA2	SDFN2020 DP1	Tape&Reel	3000	7”	8mm

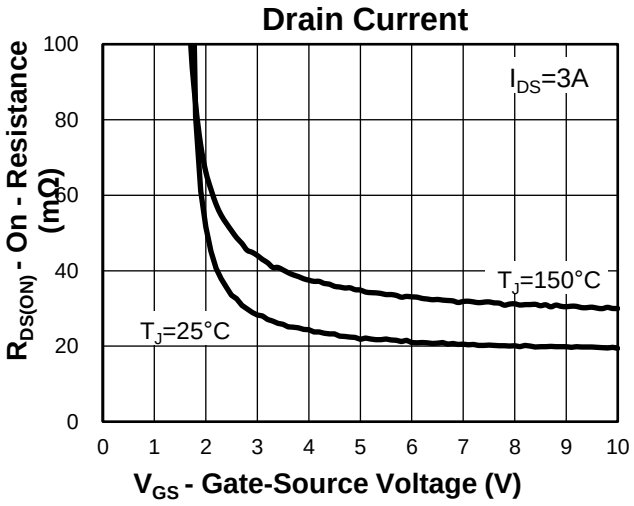
Y =Year,2017-A,2018-B,etc.
WW =Week.

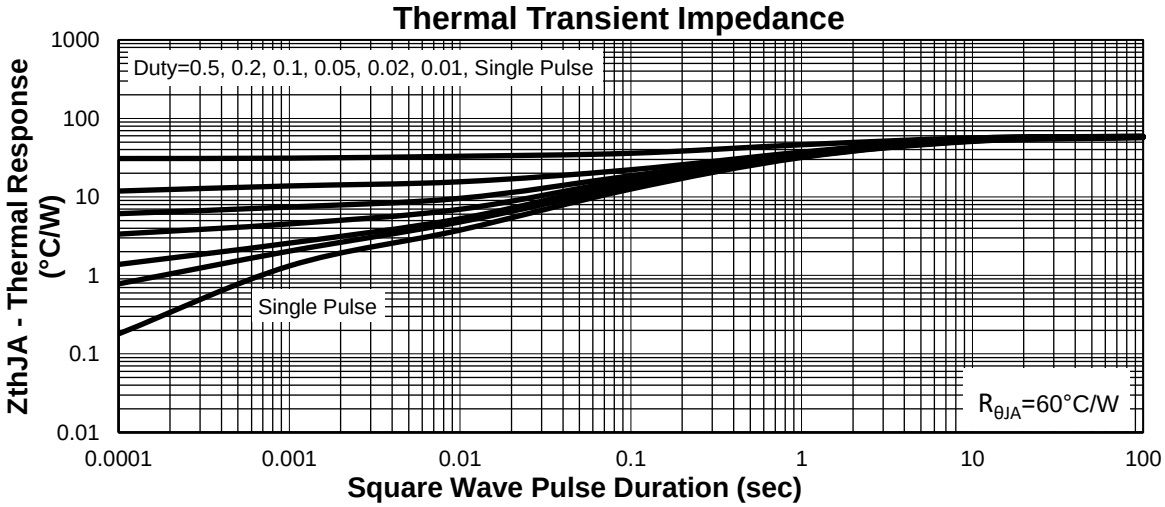
Typical Characteristics











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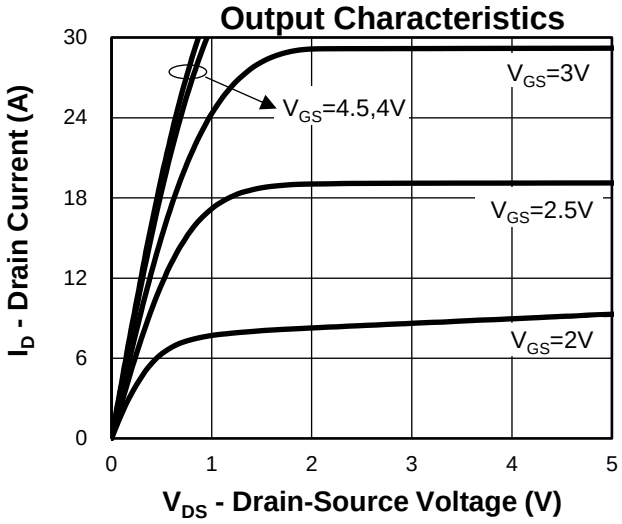
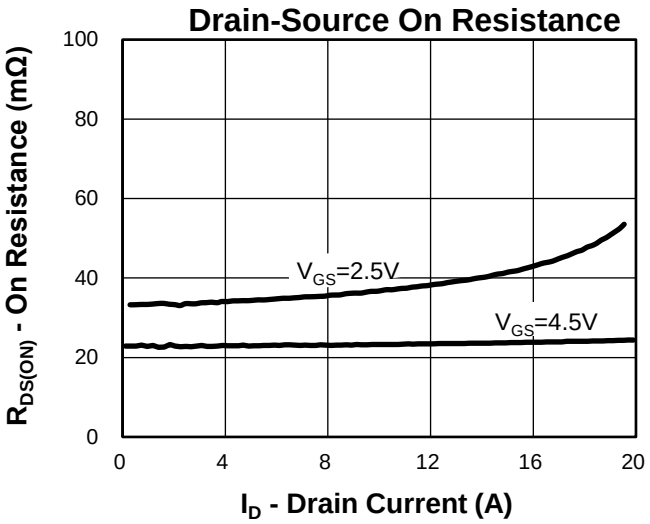
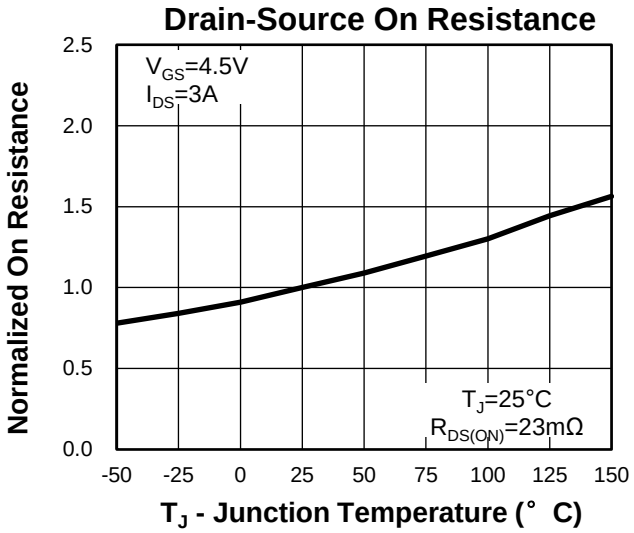
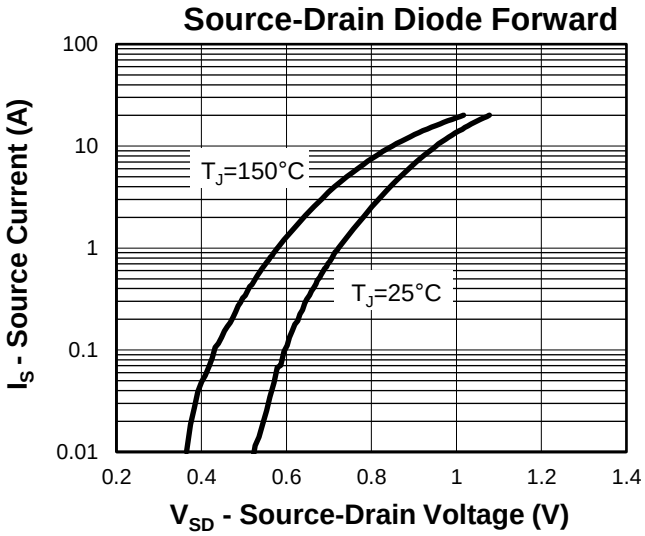
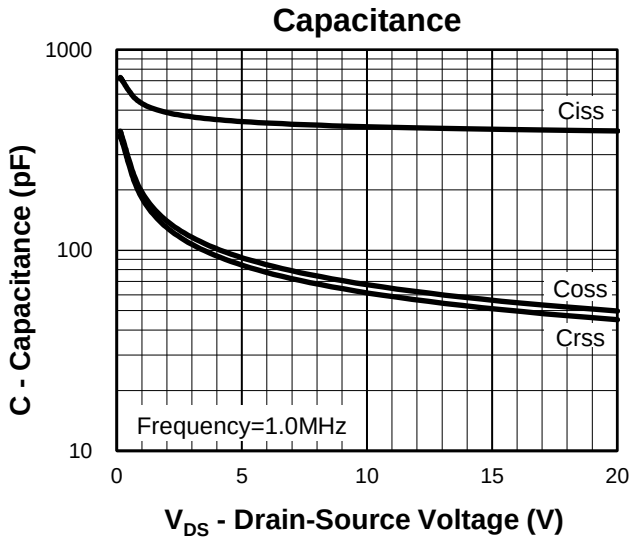
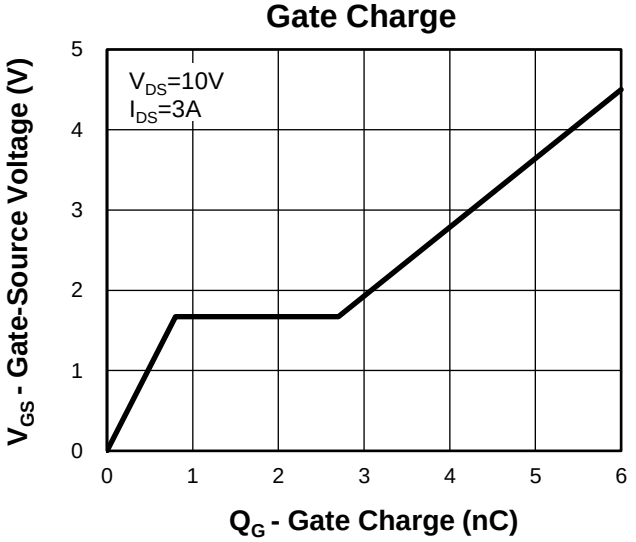






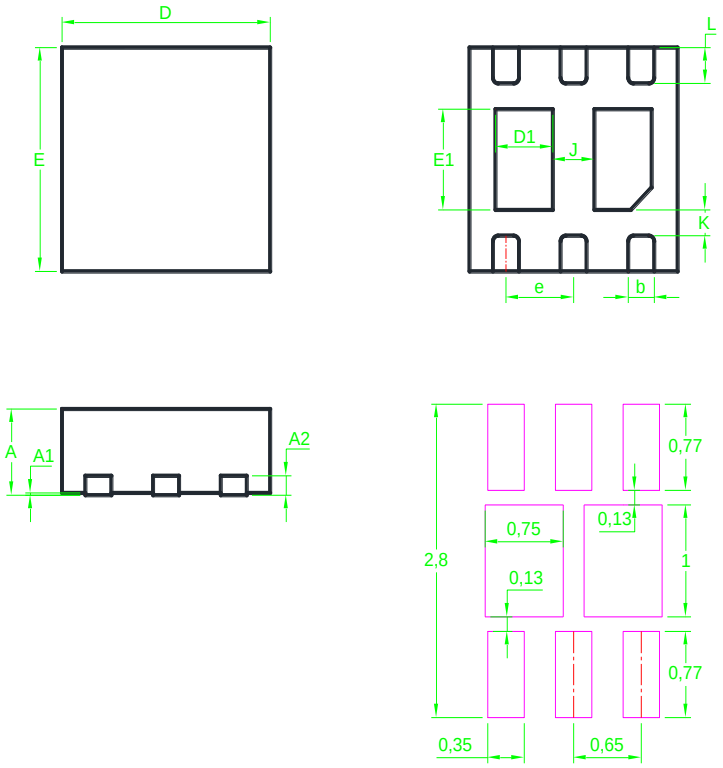






Package Information

SDFN2020 DP1

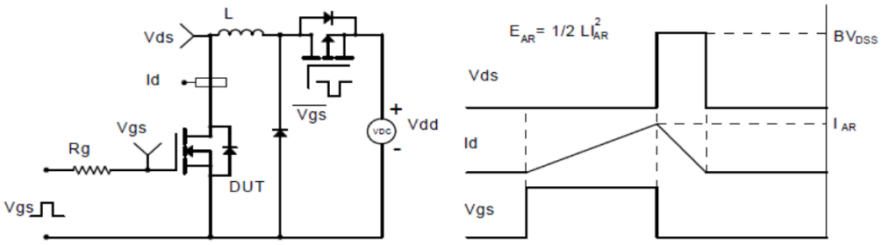


Land Pattern
(Only Reference)

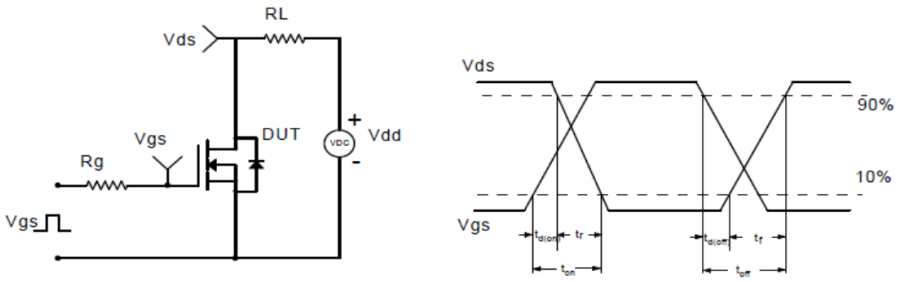
SYMBOL	MM			INCH		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.70	0.75	0.80	0.028	0.030	0.031
A1	0.00	*	0.05	0.000	*	0.002
A2	0.203BSC			0.008BSC		
b	0.20	0.25	0.30	0.008	0.010	0.012
D	1.95	2.00	2.05	0.077	0.079	0.081
D1	0.50	0.55	0.60	0.020	0.022	0.024
e	0.65BSC			0.026BSC		
E	1.95	2.00	2.05	0.077	0.079	0.081
E1	0.85	0.90	0.95	0.050BSC		
L	0.27	0.32	0.37	0.011	0.013	0.015
J	0.40BSC			0.016BSC		
K	0.02	*	*	0.001	*	*

Note: Dimensions do not inclusive burrs and mold flash.

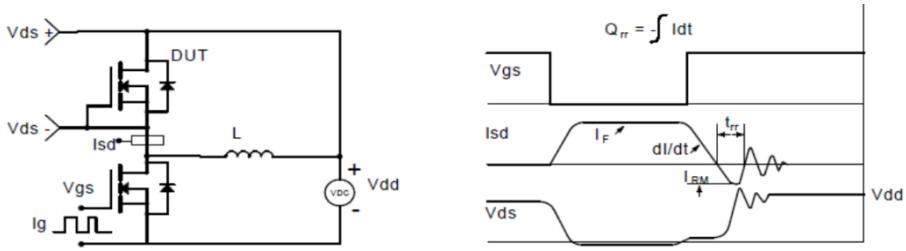
Avalanche Test Circuit and Waveforms



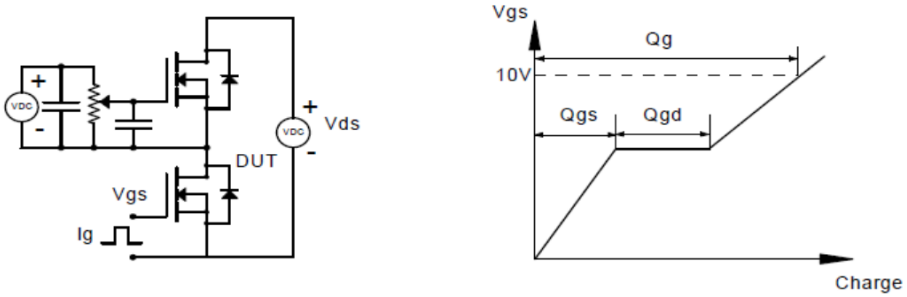
Switching Time Test Circuit and Waveforms



Diode Recovery Test Circuit and Waveforms



Gate Charge Test Circuit and Waveform



Customer Service

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