

# Small Signal Schottky diode

# RB521G-30Y2

## Description

Planar silicon Schottky barrier diode encapsulated in a SOD-723 plastic SMD package.

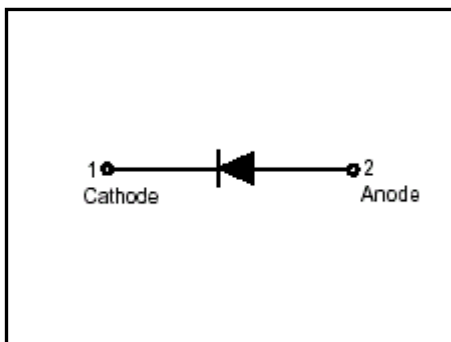
## Features

- Extremely small surface mounting type.(SOD-723)
- Low  $V_F$
- High reliability
- Pb-free lead plating and halogen-free package

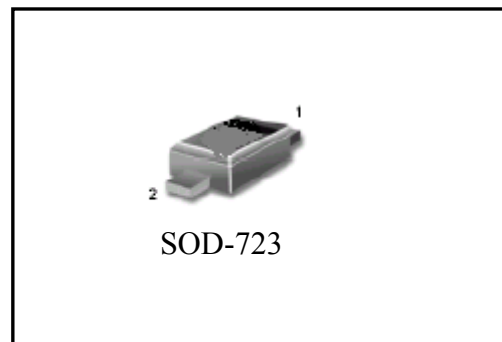
## Applications

Low current rectification and high speed switching

## Symbol



## Outline



## Absolute Maximum Ratings

- Maximum Temperatures
 

Storage Temperature $T_{stg}$ .....	-40~+125°C
Junction Temperature $T_j$ .....	+125°C
- Maximum Voltages and Currents ( $T_a=25^\circ\text{C}$ )
 

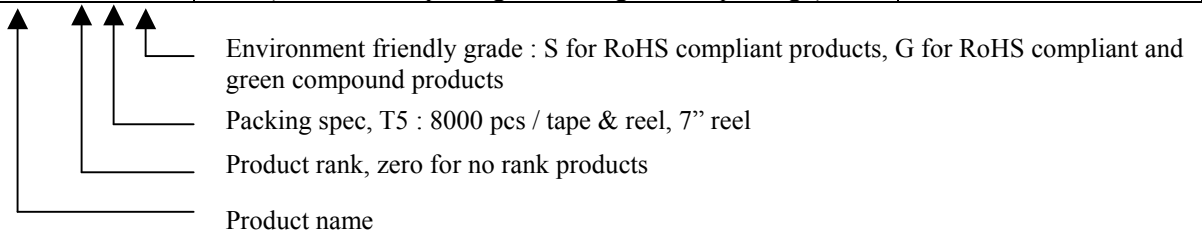
DC Reverse Voltage $V_R$ .....	40 V
Mean Rectifying Current $I_o$ .....	100 mA
Peak Forward Surge Current $I_{FSM}$ .....	1 A

**Characteristics (Ta=25°C)**

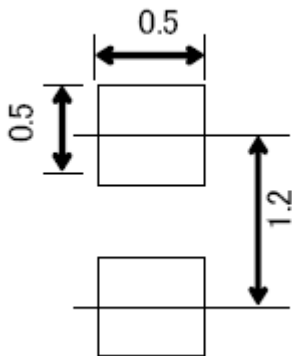
Characteristic	Symbol	Condition	Min.	Max.	Unit
Reverse Breakdown Voltage	V <sub>R</sub>	I <sub>R</sub> =500μA	40	-	V
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =10mA	-	340	mV
		I <sub>F</sub> =100mA	-	480	
Reverse Leakage Current	I <sub>R</sub>	V <sub>R</sub> =10V	-	10	μA
		V <sub>R</sub> =20V	-	15	μA

**Ordering Information**

Device	Package	Shipping
RB521G-30Y2-0-T5-G	SOD-723 (Pb-free lead plating and halogen-free package)	8000 pcs / Tape & Reel



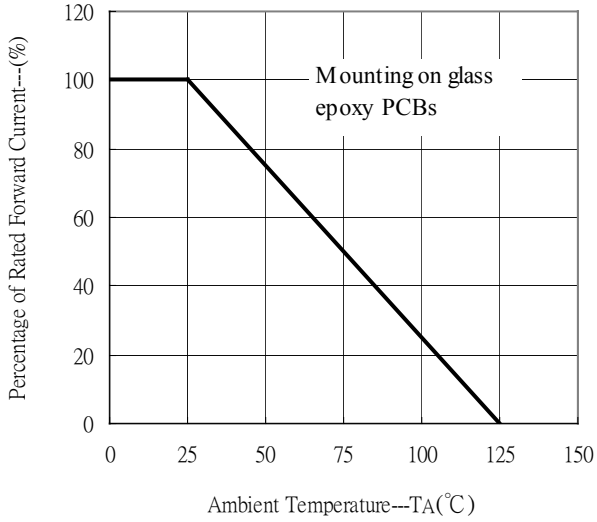
**Recommended Soldering Footprint**



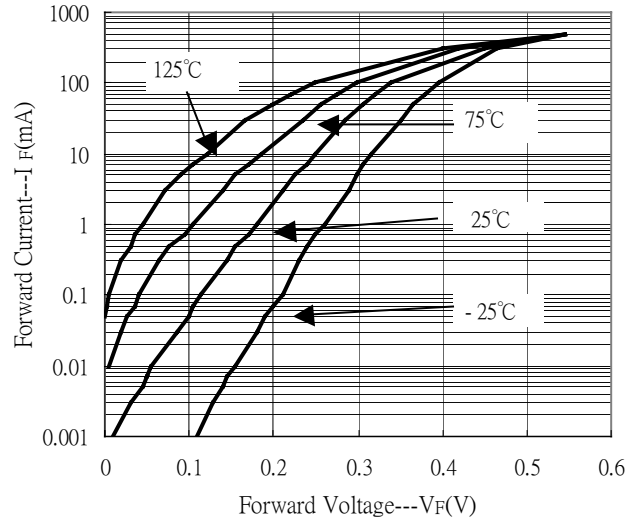
unit : mm

**Typical Characteristics**

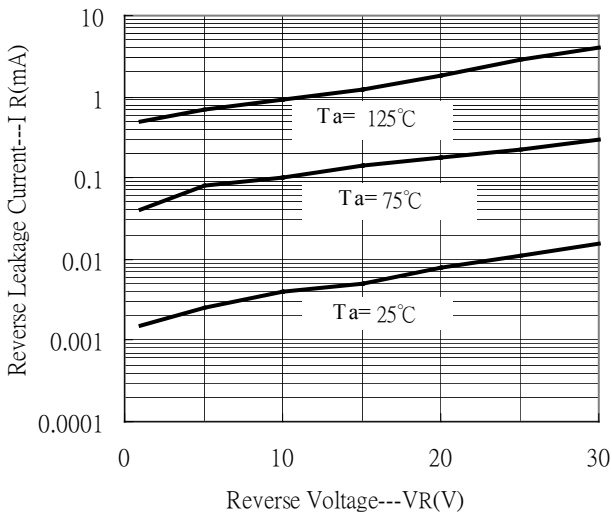
Forward Current Derating Curve



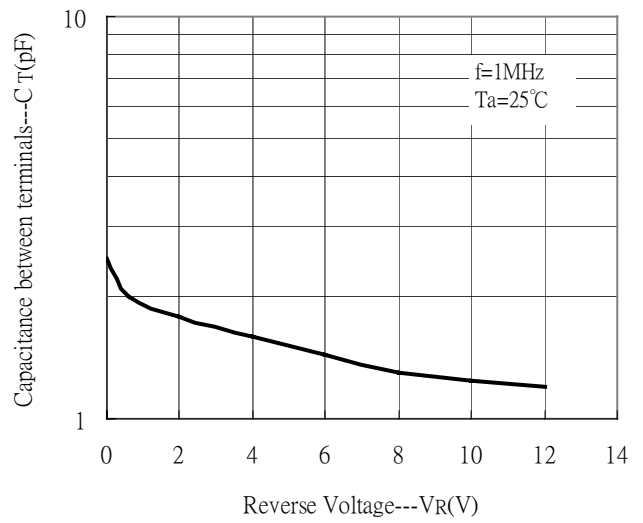
Forward Current vs Forward Voltage



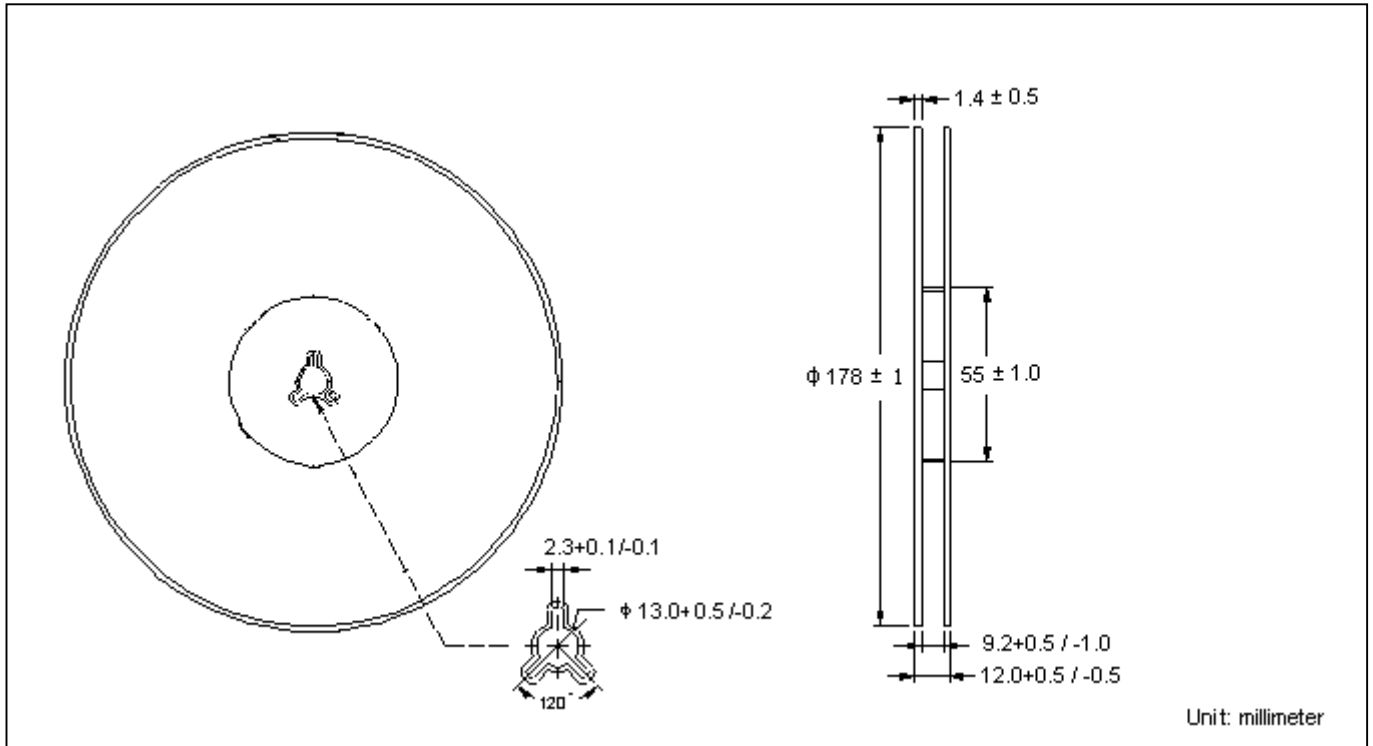
Reverse Leakage Current vs Reverse Voltage



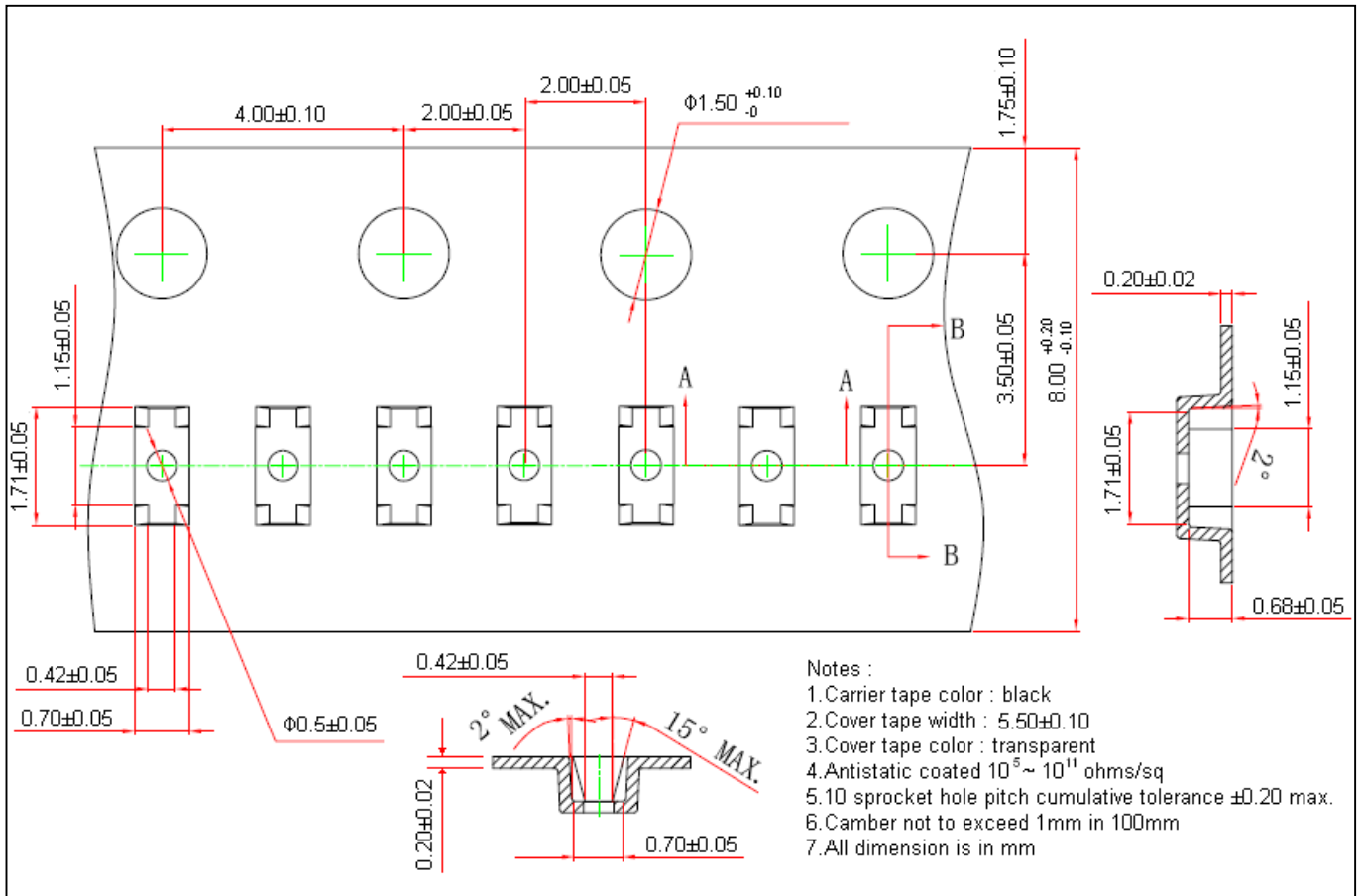
Capacitance vs Reverse Voltage



**Reel Dimension**



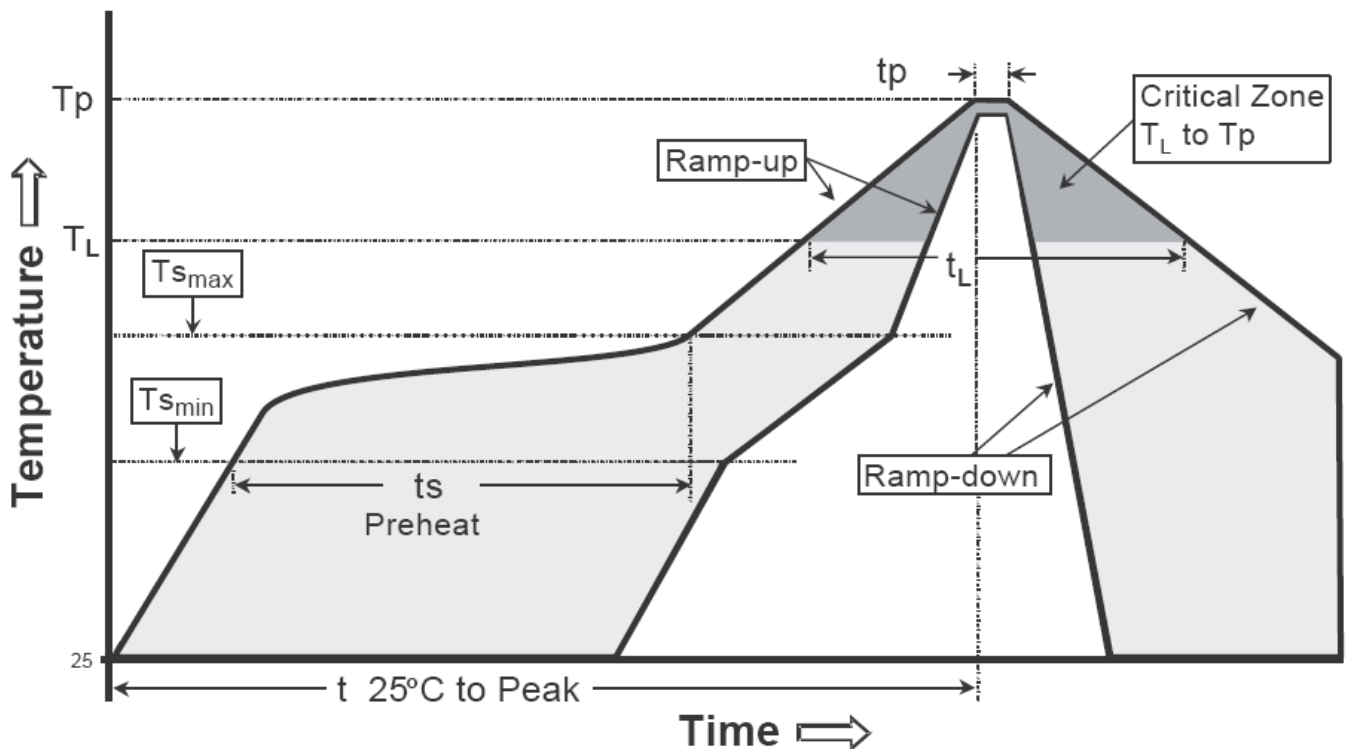
**Carrier Tape Dimension**



**Recommended wave soldering condition**

Product	Peak Temperature	Soldering Time
Pb-free devices	260 +0/-5 °C	5 +1/-1 seconds

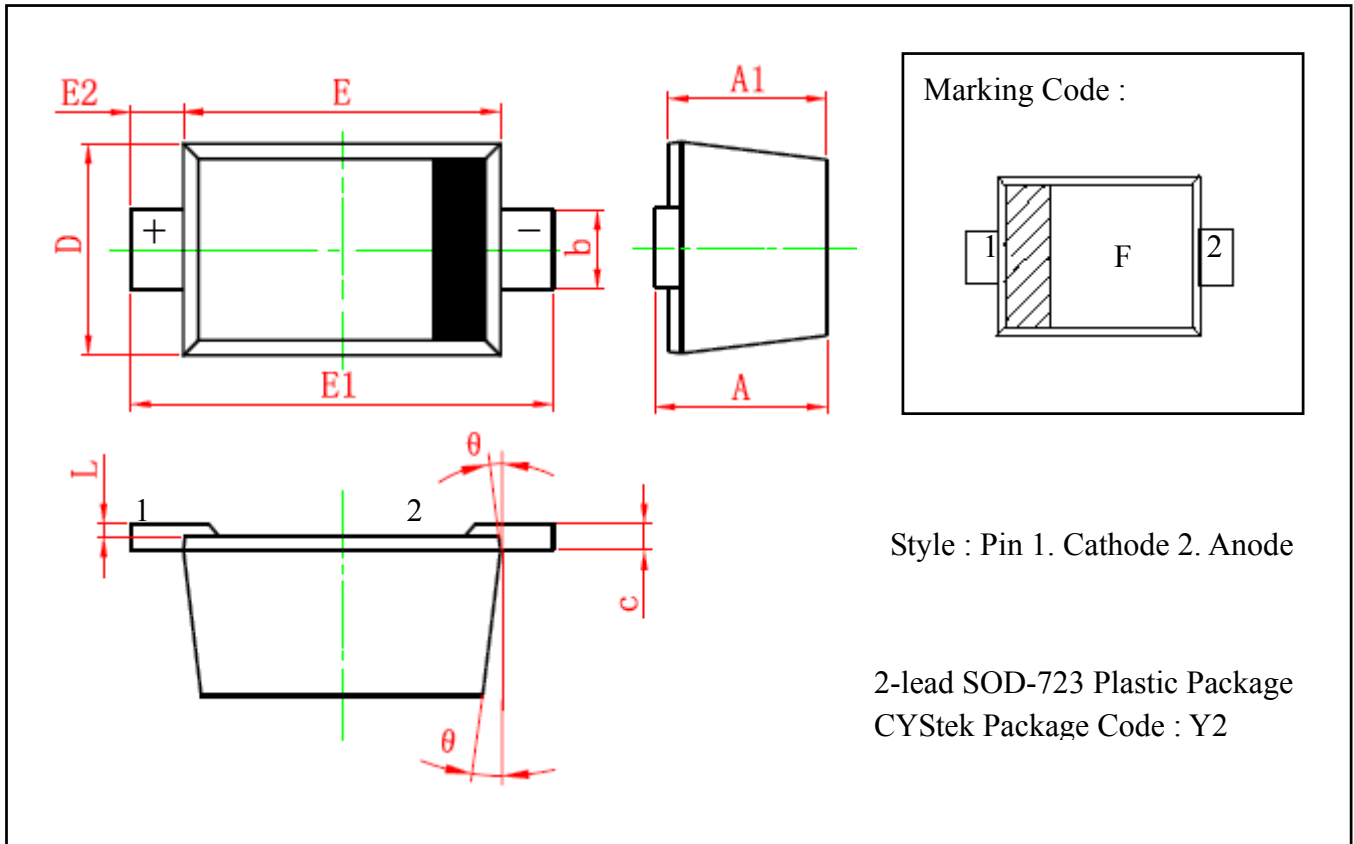
**Recommended temperature profile for IR reflow**



Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (T <sub>smax</sub> to T <sub>p</sub> )	3°C/second max.	3°C/second max.
Preheat		
-Temperature Min(T <sub>s min</sub> )	100°C	150°C
-Temperature Max(T <sub>s max</sub> )	150°C	200°C
-Time(t <sub>s min</sub> to t <sub>s max</sub> )	60-120 seconds	60-180 seconds
Time maintained above:		
-Temperature (T <sub>L</sub> )	183°C	217°C
- Time (t <sub>L</sub> )	60-150 seconds	60-150 seconds
Peak Temperature(T <sub>P</sub> )	240 +0/-5 °C	260 +0/-5 °C
Time within 5°C of actual peak temperature(tp)	10-30 seconds	20-40 seconds
Ramp down rate	6°C/second max.	6°C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

Note : All temperatures refer to topside of the package, measured on the package body surface.

**SOD-723 Dimension**



\*: Typical

DIM	Millimeters		Inches		DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.525	0.650	0.021	0.026	E	0.900	1.100	0.035	0.043
A1	0.515	0.580	0.020	0.023	E1	1.300	1.500	0.051	0.059
b	0.250	0.350	0.010	0.014	E2	0.200	REF	0.008	REF
c	0.080	0.150	0.003	0.006	L	0.010	0.070	0.001	0.003
D	0.550	0.650	0.022	0.026	$\theta$	7° REF		7° REF	

Notes: 1. Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.  
 2. If there is any question with packing specification or packing method, please contact your local CYStek sales office.

**Material:**

- Lead: Pure tin plated.
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0.

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