

描述 / Descriptions

N 沟道 TO-220 塑封封装场效应管。

N-CHANNEL MOSFET in a TO-220 Plastic Package.

特征 / Features

$V_{DS} (V) = 60V$ $I_D = 120A$ ($V_{GS} = \pm 20V$)

$R_{DS(ON)}@10V \leq 6m\Omega$ (Typ. $4m\Omega$)

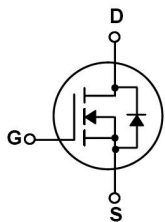
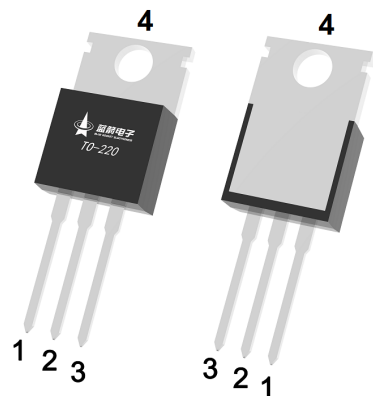
$R_{DS(ON)}@6V \leq 10m\Omega$ (Typ. $5m\Omega$)

无卤产品。HF Product.

用途 / Applications

用于高效 DC/DC 转换，同步整流和 UPS 逆变器。

These devices are well suited for high efficiency switching DC/DC converters, Synchronous rectification and UPS inverter.

内部等效电路 / Equivalent Circuit**引脚排列 / Pinning**

PIN1 : G

PIN 2、4 : D

PIN 3 : S

放大及印章代码 / hFE Classifications & Marking

见印章说明。

See Marking Instructions.

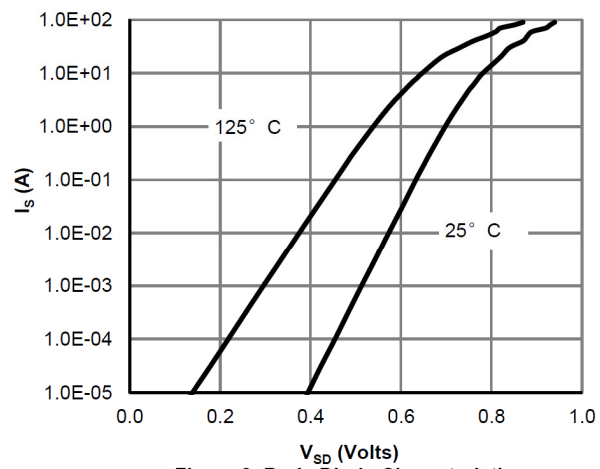
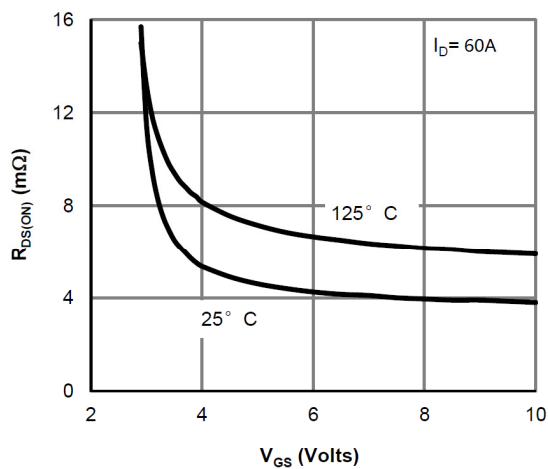
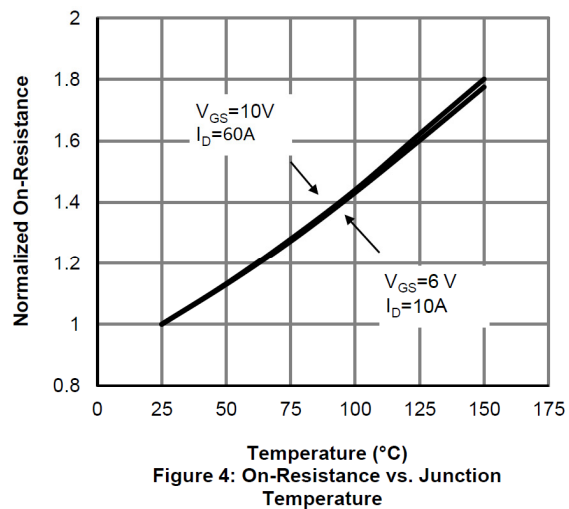
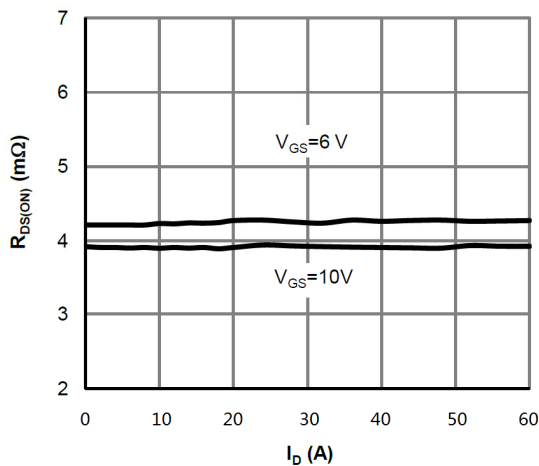
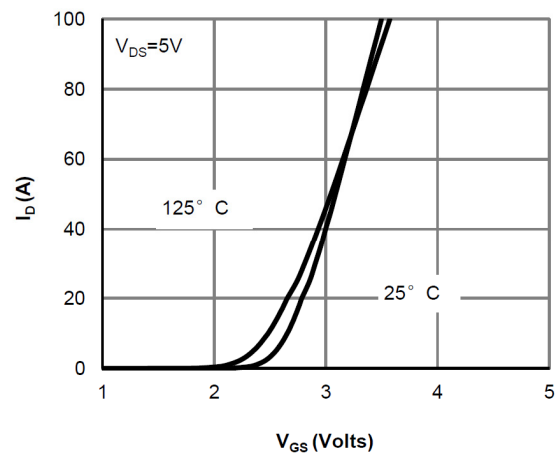
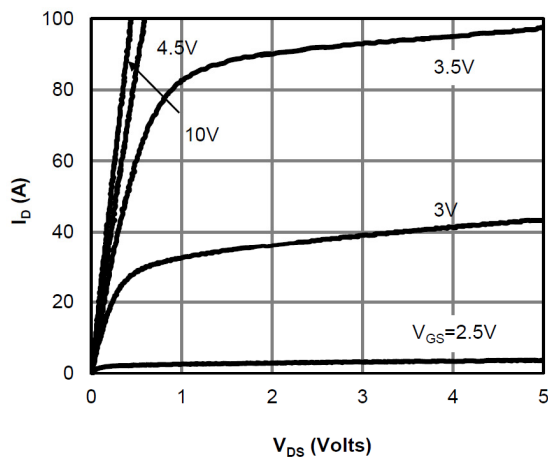
极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage	V_{DS}	60	V
Drain Current	$I_D(T_c=25^\circ\text{C})$	120	A
	$I_D(T_c=100^\circ\text{C})$	88	A
Pulsed Drain Current	I_{DM}	480	A
Gate-Source Voltage	V_{GS}	± 20	V
Avalanche energy L=0.5mH	E_{AS}	860	mJ
Total Power Dissipation	$P_D(T_c=25^\circ\text{C})$	195	W
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^\circ\text{C}$
Thermal Resistance-Junction to Case	$R_{\theta JC}$	0.64	$^\circ\text{C/W}$
Thermal Resistance-Junction to Ambient	$R_{\theta JA}$	65	

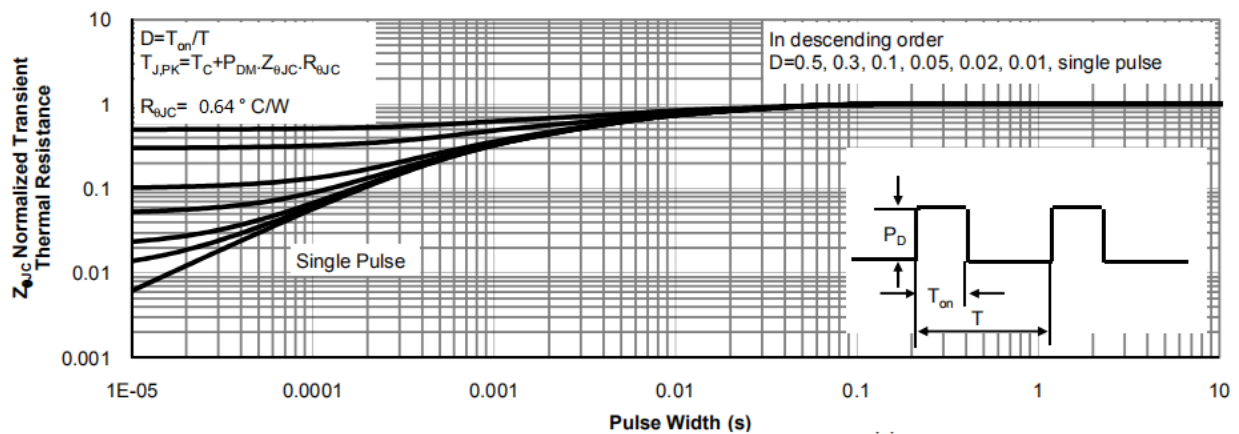
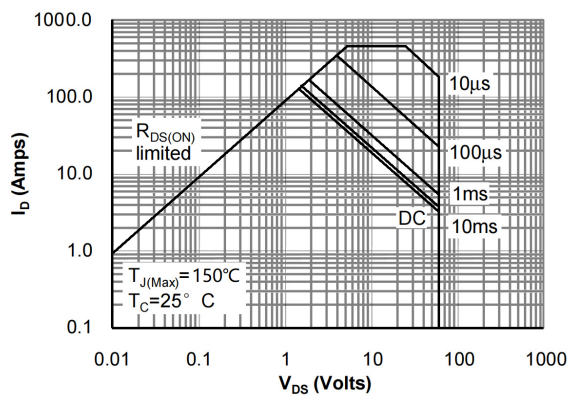
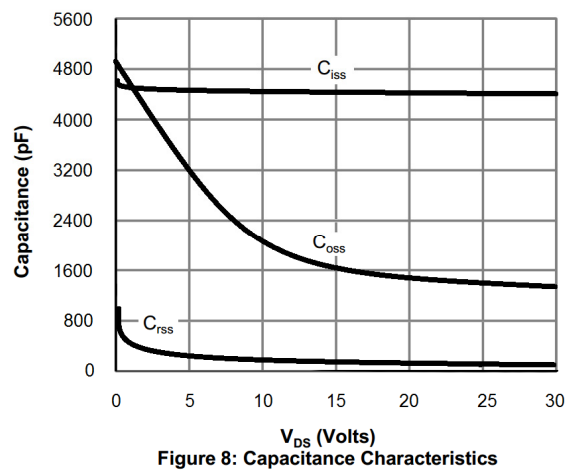
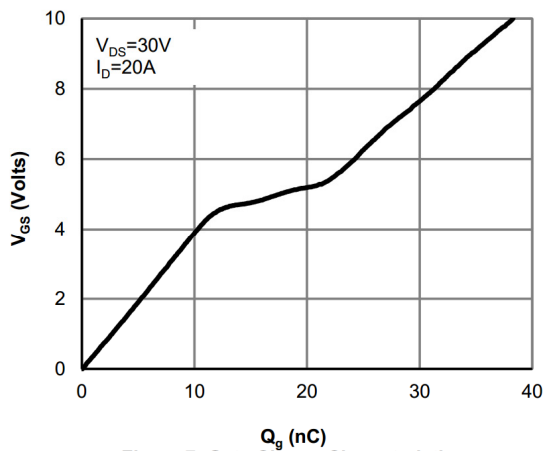
电性能参数 / Electrical Characteristics(Ta=25°C)

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Zero Gate Voltage Drain Current	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	60			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60V$ $V_{GS}=0V$			1	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	1.5	1.9	3.5	V
Static Drain-Source On-Resistance	$R_{DS(on)1}$	$V_{GS}=10V$ $I_D=60A$		4	6	m Ω
	$R_{DS(on)2}$	$V_{GS}=6V$ $I_D=10A$		5	10	m Ω
Forward On Voltage	V_{SD}	$V_{GS}=0V$ $I_S=1A$			1.2	V
Gate Series Resistan	R_g	$f=1.0MHz$		1.0		Ω
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1MHz$		4400		pF
Output Capacitance	C_{oss}			1400		
Reverse Transfer Capacitance	C_{rss}			73		
Total Gate Charge	Q_g	$V_{GS}=10V$, $I_D=20A$ $V_{DS}=30V$		42		nC
Gate-Source charge	Q_{gs}			14		
Gate-Drain charge	Q_{gd}			11		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $R_L=1.5\Omega$ $V_{DS}=30V$ $R_{GEN}=3\Omega$		13		ns
Turn-On Rise Time	t_r			4		
Turn-Off Delay Time	$t_{d(off)}$			47		
Turn-Off Fall Time	t_f			6.5		

电参数曲线图 / Electrical Characteristic Curve



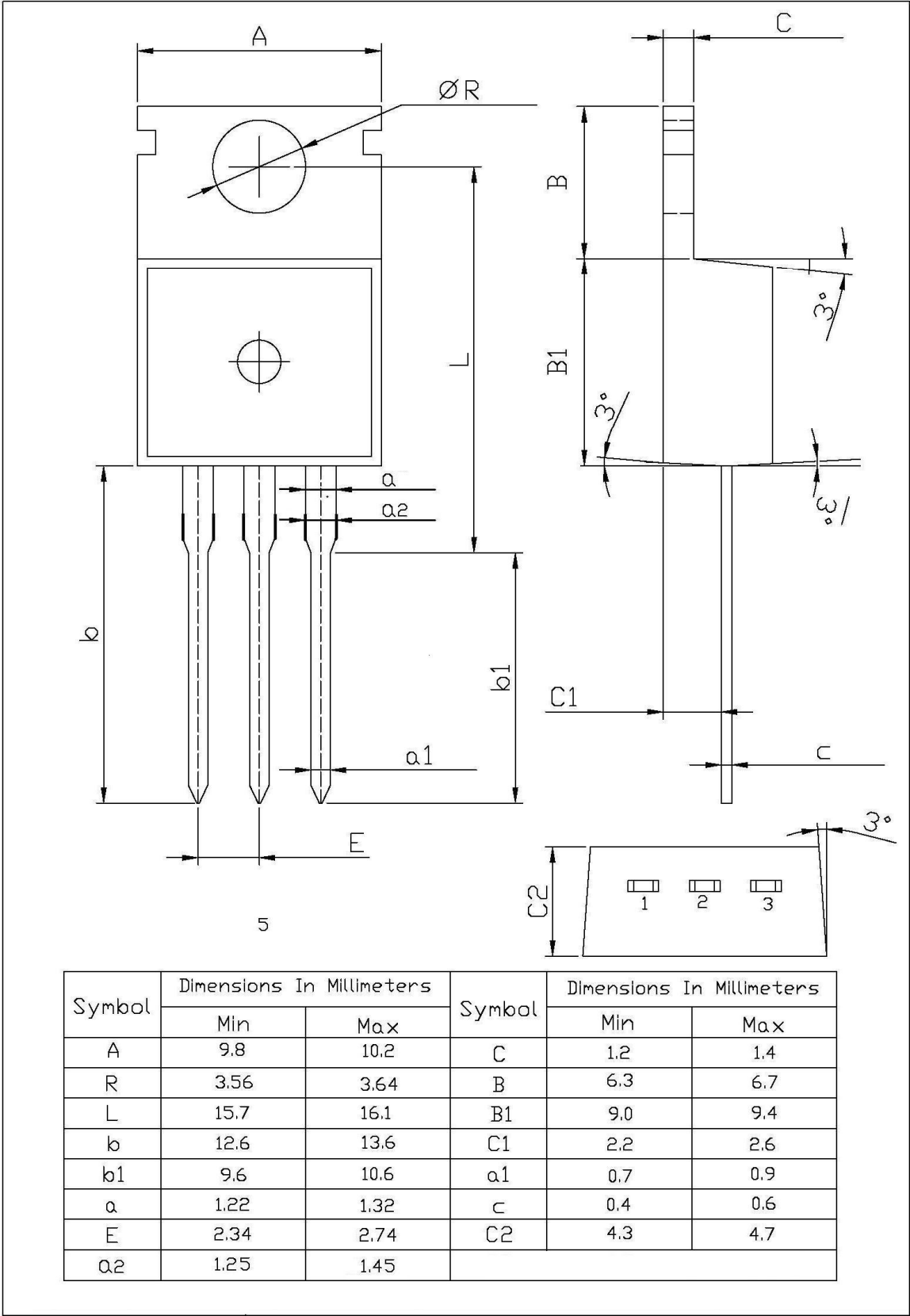
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

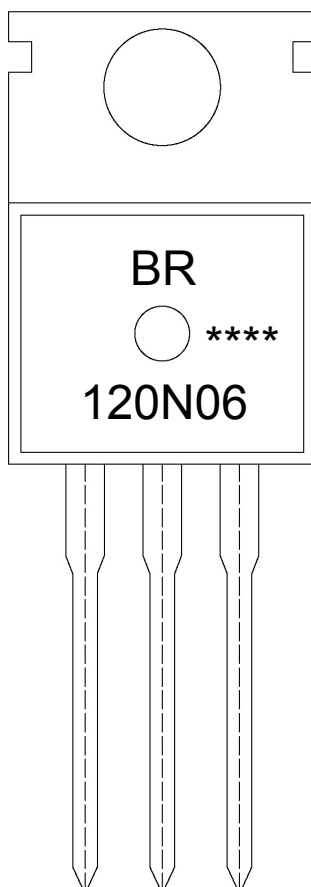
T□-220

单位: mm





印章说明 / Marking Instructions



说明：

BR： 为公司代码

****： 为生产批号代码，随生产批号变化

120N06： 为产品型号

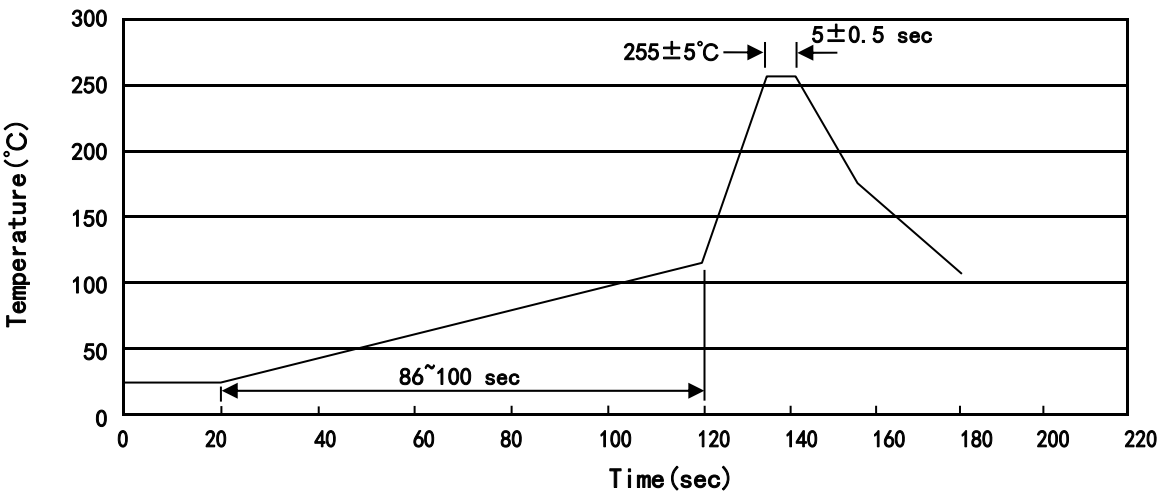
Note:

BR: Company Code

****: Lot No. Code, code change with Lot No.

120N06: Product Type

波峰焊温度曲线图(无铅) / Temperature Profile for Dip Soldering(Pb-Free)



说明：

- 1、预热温度 25 ~ 150℃，时间 60 ~ 90sec;
- 2、峰值温度 255±5℃，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2 ~ 10℃/sec.

Note:

- 1.Preheating:25~150℃, Time:60~90sec.
- 2.Peak Temp.:255±5℃, Duration:5±0.5sec.
3. Cooling Speed: 2~10℃/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：270±5℃ 时间：10±1 sec. Temp.:270±5℃ Time:10±1 sec

包装规格 / Packaging SPEC.

散件包装 / BULK

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Bag 只/袋	Bags/Inner Box 袋/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Bag 袋	Inner Box 盒	Outer Box 箱
TO-220/F	200	10	2,000	5	10,000	135×190	237×172×102	560×245×195

套管包装 / TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Tube 只/套管	Tubes/Inner Box 套管/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Tube 套管	Inner Box 盒	Outer Box 箱
TO-220/F	50	20	1,000	5	5,000	532×31.4×5.5	555×164×50	575×290×180

使用说明 / Notices

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