

20V N沟道功率MOSFET

UM8120DA DFN3 1.0×0.6

描述

UM8120DA 是一款低阈值 N 沟道 MOSFET，导通电阻极低。这一优势为设计师提供了适用于电池和负载管理应用的极高效器件。该器件采用节省空间、外形小巧的 DFN3 1.0×0.6 封装。

应用

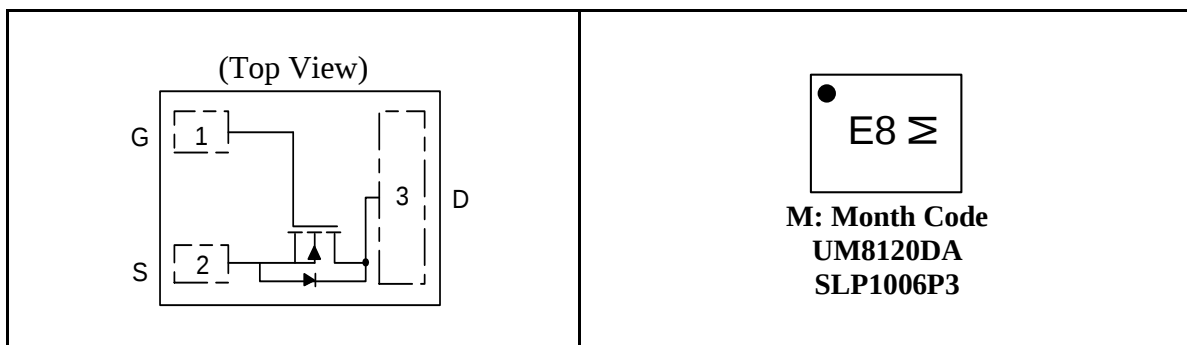
- 负载开关
- 电池组
- 电池供电的便携式设备
- 手机和无线电话

特性

- 漏源电压（最大）：20V
- 低导通电阻：
160mΩ@V_{GS}=4.5V, I_D=0.6A
210mΩ@V_{GS}=2.5V, I_D=0.3A
270mΩ@V_{GS}=1.8V, I_D=0.2A
- 持续漏极电流（最大）：
0.6A@25℃

引脚配置

顶部视图



订购信息

芯片型号	封装类型	丝印编码	发货数量
UM8120DA	DFN3 1.0×0.6	E8	10000pcs/7 Inch Tape & Reel

Absolute Maximum Ratings

Symbol	Parameter	Value	Units
V_{DSS}	Drain-Source Voltage	20	V
V_{GS}	Gate-Source Voltage	± 8	V
I_D	Continuous Drain Current (5s)	0.6	A
I_{DP}	Drain Current Pulsed (Pulse Width $\leq 10\mu s$, Duty Cycle $\leq 1\%$)	3.6	A
P_D	Power Dissipation ($T_A = 25^\circ C$)	0.23	W
T_J	Junction Temperature	$-55 \sim 150$	$^\circ C$
T_{stg}	Storage Temperature	$-55 \sim 150$	$^\circ C$
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient ($\leq 5s$)	540	$^\circ C/W$

Electrical Characteristics ($T_J = 25^\circ C$, unless otherwise noted)

Symbol	Parameter	Test Condition	Min	Typ	Max	Unit
Off Characteristics						
BV _{DSS}	Drain-to-Source Breakdown Voltage	V _{GS} =0V, I _D =250μA	20			V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =20V, V _{GS} =0V			0.1	μA
I _{GSS}	Gate-to-Source Leakage Current	V _{GS} = ±8V, V _{DS} =0V			±10	μA
On Characteristics						
R _{DS(ON)}	Static Drain-to-Source On-Resistance(Note 1)	V _{GS} =4.5V, I _D =0.6A		160	240	mΩ
		V _{GS} =2.5V, I _D =0.3A		200	300	
		V _{GS} =1.8V, I _D =0.2A		300	400	
V _{GS(TH)}	Gate-Source Threshold Voltage	V _{DS} = V _{GS} , I _D =250μA	0.5	0.8	1.1	V
g _{fs}	Forward Transconductance (Note 1)	V _{DS} =5V, I _D =100mA		0.5		S
Dynamic Characteristics (Note 2)						
C _{iss}	Input Capacitance	V _{GS} =0V, V _{DS} = 10V, f=1.0MHz		120		pF
C _{oss}	Output Capacitance			25		
C _{rss}	Reverse Transfer Capacitance			10		
Switching Characteristics (Note 2)						
td(on)	Turn-on Delay Time	V _{DD} = 5V ,I _D =0.3A, V _{GS} =4.5V, R _G =6Ω		10		ns
tr	Rise Time			40		
td(off)	Turn-off Delay Time			30		
tf	Fall Time			30		
Drain-Source Diode Characteristics and Maximum Ratings						
V _{SD}	Forward Diode Voltage	I _S =0.6A, V _{GS} =0V		0.8	1.2	V

Note 1: Pulse test: pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.

Note 2: Guaranteed by design, not subject to production testing.

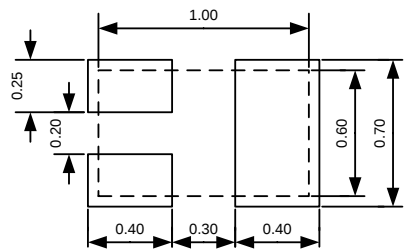
Package Information

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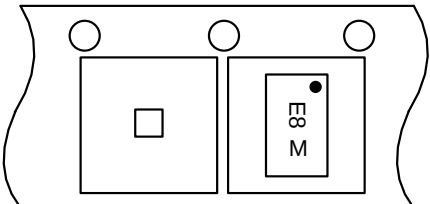
Outline Drawing

DIMENSIONS						
Symbol	MILLIMETERS			INCHES		
	Min	Typ	Max	Min	Typ	Max
A	0.45	0.50	0.55	0.018	0.020	0.022
A1	0.00	0.03	0.05	0.000	0.001	0.002
b	0.10	0.15	0.20	0.004	0.006	0.008
D	0.95	1.00	1.075	0.037	0.039	0.042
D2	0.20	0.25	0.30	0.008	0.010	0.012
E	0.55	0.60	0.675	0.022	0.024	0.027
E2	0.45	0.50	0.55	0.018	0.020	0.022
e	0.35TYP			0.014TYP		
L	0.20	0.25	0.30	0.008	0.010	0.012

Land Pattern

	NOTES: 1. Compound dimension: 1.00×0.60; 2. Unit: mm; 3. General tolerance $\pm 0.05\text{mm}$ unless otherwise specified; 4. The layout is just for reference.
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Tape and Reel Orientation



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