

具有电平转换功能的负载开关

UM3865P SOT363

描述

UM3865P 集成了一个 P 沟道和 N 沟道 MOSFET，封装在单个 SOT363 封装中。低导通电阻 P 沟道 MOSFET 专为负载开关设计。N 沟道 MOSFET 配合外部电阻可作为电平转换器，驱动 P 沟道负载开关。N 沟道 MOSFET 具有内部 ESD 保护功能，可由低至 1.5V 的逻辑信号驱动。UM3865P 支持 1.8V 至 8V 的供电电压，并可驱动最大 1A 的负载。

应用

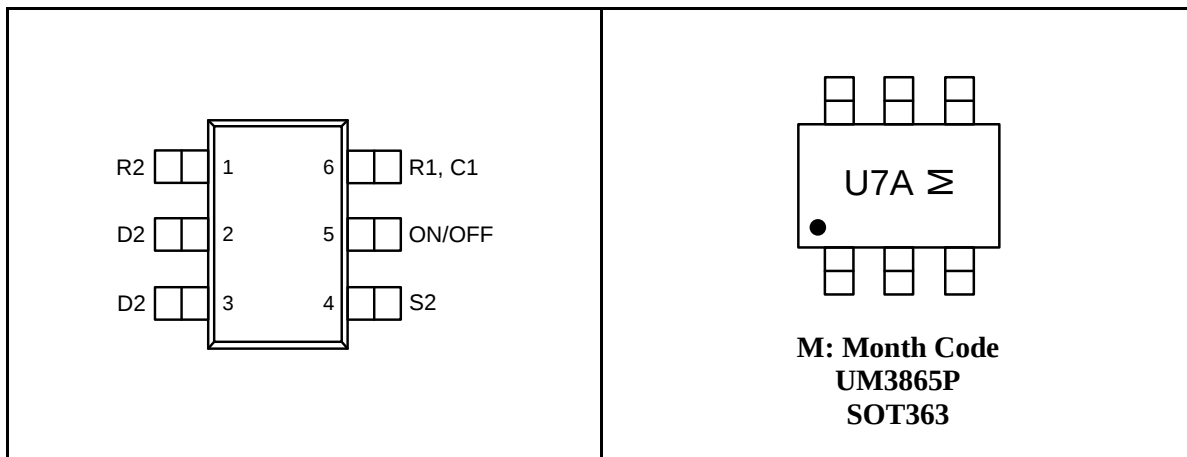
- 电池组
- 电池供电的便携式设备
- 手机和无线电话

特性

- 300 mΩ 低导通电阻
- 输入电压范围：1.8V 至 8V
- 逻辑控制电压范围：1.5V 至 8V
- 扁平、小尺寸 SOT363 封装
- 输入开关具备 2000V ESD 保护
- 可调节摆率

引脚配置

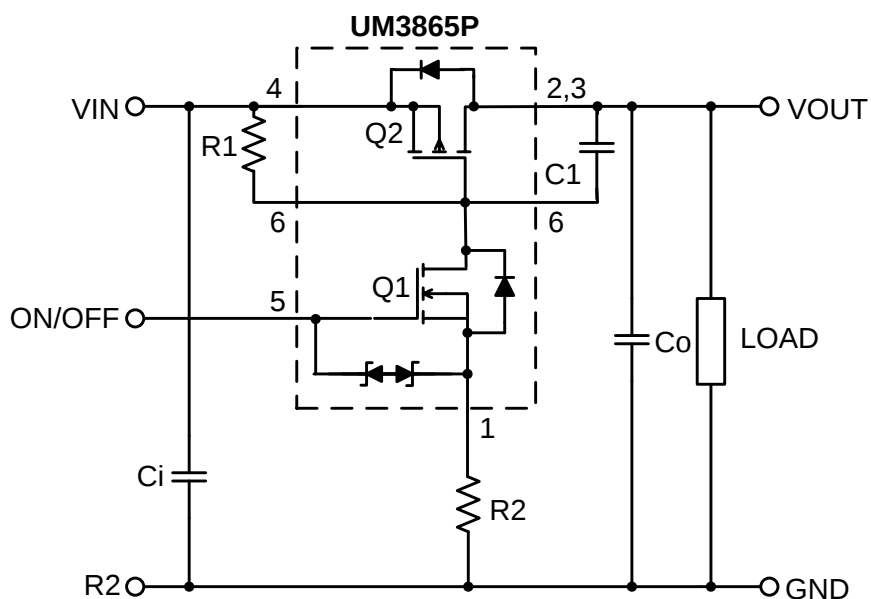
顶部视图



订购信息

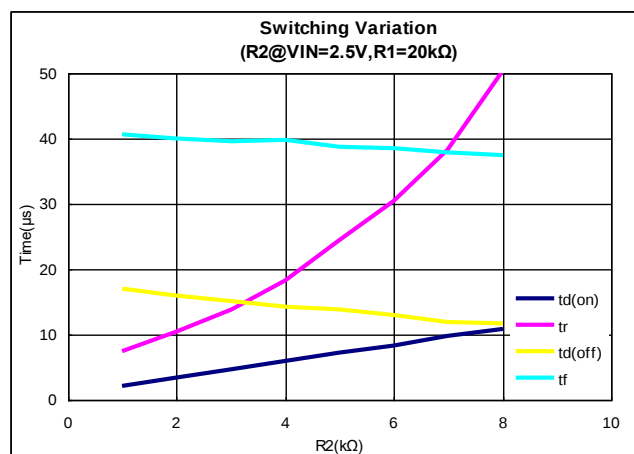
芯片型号	封装类型	丝印编码	发货数量
UM3865P	SOT363	U7A	3000pcs/7 Inch Tape & Reel

Typical Application Circuit



COMPONENTS		
R1	Pull-Up Resistor	Typical 20kΩ to 1MΩ*
R2	Optional Slew-Rate Control	Typical 0 to 50kΩ
C1	Optional Slew-Rate Control	Typical 1000pF

*Minimum R1 value should be at least $10 \times R2$ to ensure Q1 turn-on.



Note 1: For R2 switching variations with other VIN/R1 combinations, see Typical Characteristics.

Absolute Maximum Ratings

Symbol	Parameter	Limit	Unit
V_{IN}	Input Voltage	8	V
$V_{ON/OFF}$	ON/OFF Voltage	8	
I_L	Continuous Load Current (Note 2, 3)	± 1	A
	Pulse Load Current (Note 3, 4)	± 5	
I_S	Continuous Source Current (Source-Drain Diode)	-1.0	
P_D	Maximum Power Dissipation	0.5	W
T_J, T_{STG}	Junction and Storage Temperature Range	-50 to +150	°C
ESD	ESD Rating, MIL-STD-883D HBM	2000	V
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	250	°C/W

Electrical Characteristics ($T_J=25\text{ °C}$, unless otherwise noted)

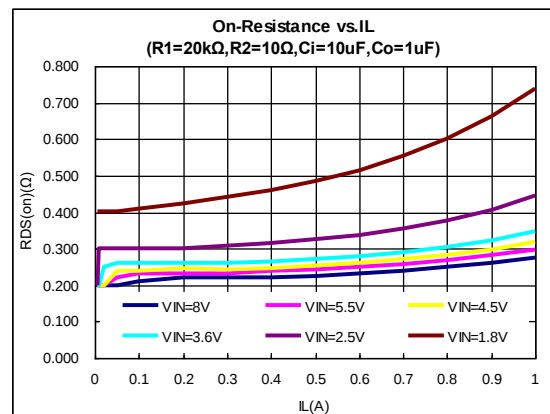
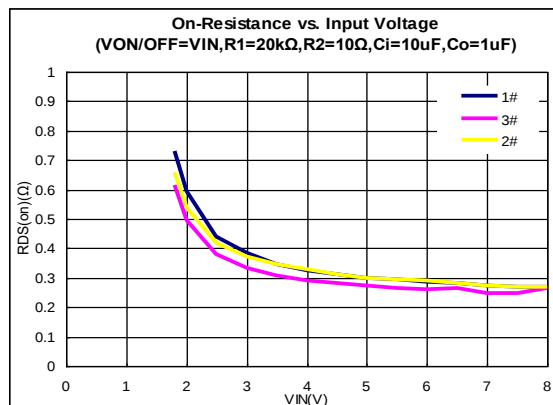
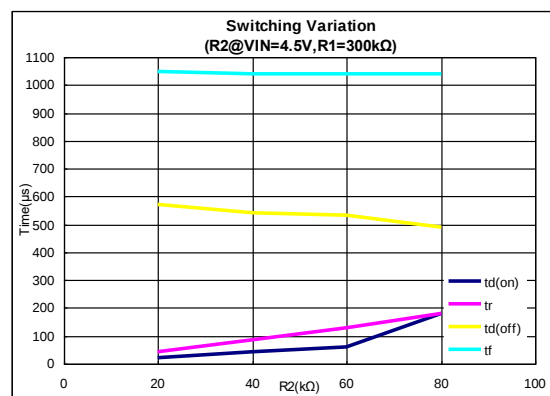
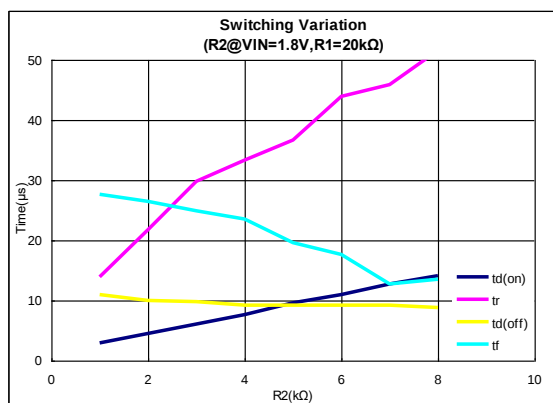
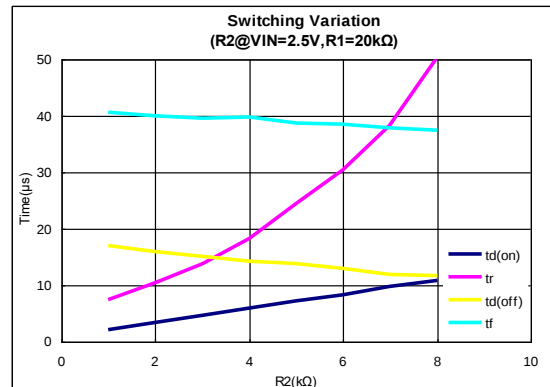
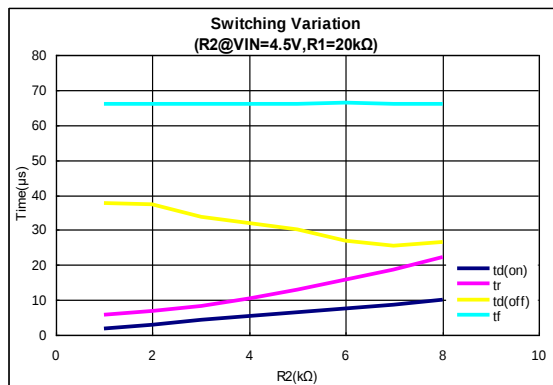
Symbol	Parameter	Test Condition	Min	Typ	Max	Unit
OFF Characteristics						
I_{FL}	Reverse Leakage Current	$V_{IN}=8V, V_{ON/OFF}=0V$			1	μA
V_{SD}	Diode Forward Voltage	$I_S=-1A$		-0.73	-1	V
ON Characteristics						
V_{IN}	Input Voltage Range		1.8		8	V
$R_{DS(ON)}$	Static Drain-to-Source On-Resistance	$V_{ON/OFF}=1.5V, V_{IN}=4.5V, I_D=1.0A$		0.300	0.350	Ω
		$V_{ON/OFF}=1.5V, V_{IN}=2.5V, I_D=1.0A$		0.400	0.450	
$I_{D(on)}$	On-State (P-Channel) Drain Current	$V_{IN-OUT}\leq 0.2V, V_{IN}=5V, V_{ON/OFF}=1.5V$	0.7			A
		$V_{IN-OUT}\leq 0.3V, V_{IN}=3V, V_{ON/OFF}=1.5V$	0.8			

Note 2: Surface Mounted on FR4 Board.

Note 3: $V_{IN}=8V, V_{ON/OFF}=8V, T_A=25\text{ °C}$.

Note 4: Pulse test: Pulse Width $\leq 300\mu s$, duty cycle $\leq 2\%$.

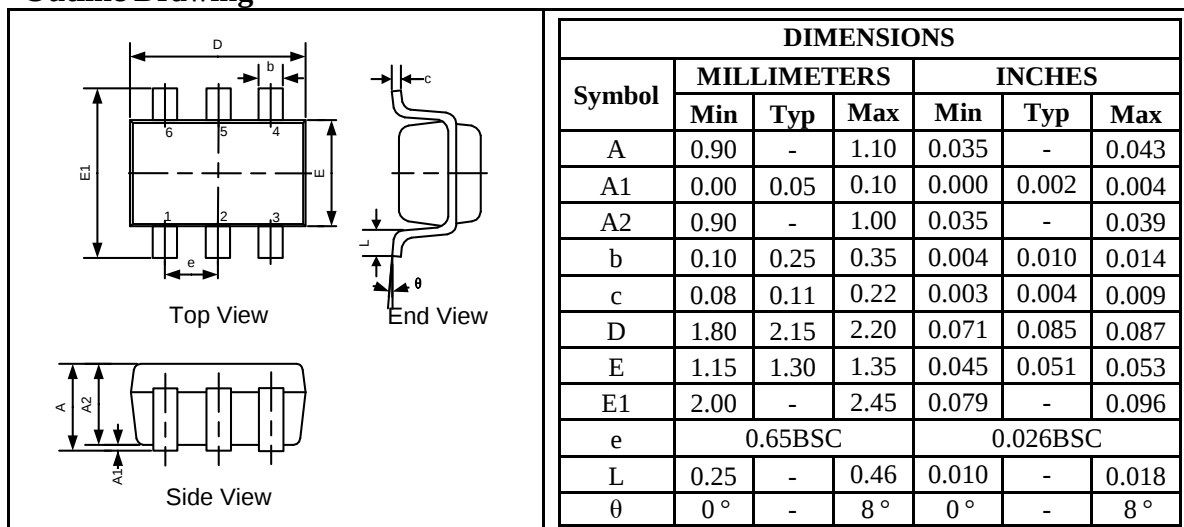
Typical Characteristics ($T_J=25^\circ\text{C}$, unless otherwise noted)



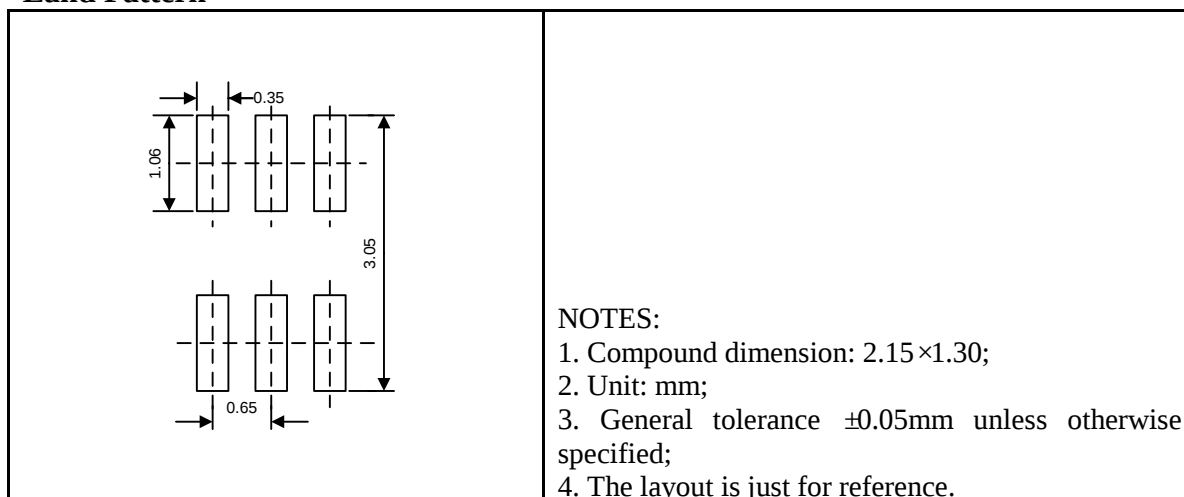
Package Information

UM3865P SOT363

Outline Drawing



Land Pattern



Tape and Reel Orientation



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