

# WPM2341A

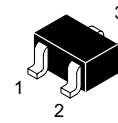
## P-Channel Enhancement Mode Mosfet

### Features

- Higher Efficiency Extending Battery Life
- Miniature SOT23-3 Surface Mount Package
- Super high density cell design for extremely low RDS (ON)

### Applications

- DC/DC Converter
- Load Switch
- Battery Powered System
- LCD Display inverter
- Power Management in Portable, Battery Powered Products

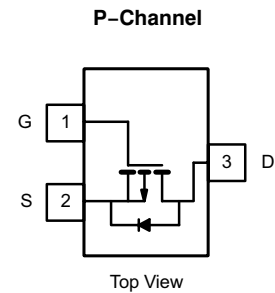


SOT 23-3

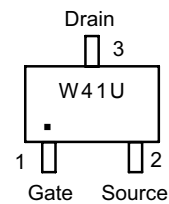
pin connections :

ABSOLUTE MAXIMUM RATINGS $T_A = 25\text{ }^\circ\text{C}$ , unless otherwise noted					
Parameter	Symbol	5 s	Steady State	Unit	
Drain-Source Voltage	$V_{DS}$	-20		V	
Gate-Source Voltage	$V_{GS}$	$\pm 12$			
Continuous Drain Current ( $T_J = 150\text{ }^\circ\text{C}$ ) <sup>a</sup>	$I_D$	$T_A = 25\text{ }^\circ\text{C}$	-4.3	-3.5	A
		$T_A = 80\text{ }^\circ\text{C}$	-3.2	-2.5	
Pulsed Drain Current	$I_{DM}$	-20			
Continuous Source Current (Diode Conduction) <sup>a</sup>	$I_S$	-1.7	-1		
Maximum Power Dissipation <sup>a</sup>	$P_D$	$T_A = 25\text{ }^\circ\text{C}$	1.25	0.75	W
		$T_A = 80\text{ }^\circ\text{C}$	0.7	0.42	
Operating Junction and Storage Temperature Range	$T_J, T_{stg}$	- 55 to 150		$^\circ\text{C}$	

a. Surface Mounted on FR4 Board using 1 in sq pad size, 2oz Cu.



Marking:



W 41= Specific Device Code  
U = Date Code

### Order information

Part Number	Package	Shipping
WPM2341A-3/TR	SOT23-3	3000 Tape & Reel



WPM2341A

THERMAL RESISTANCE RATINGS					
Parameter		Symbol	Typical	Maximum	Unit
Junction-to-Ambient Thermal Resistance <sup>b</sup>	t ≤ 5 s	R <sub>θJA</sub>	75	100	°C/W
	Steady State		125	165	

b. Surface Mounted on FR4 Board using 1 in sq pad size, 2oz Cu.

MOSFET ELECTRICAL CHARACTERISTICS(T<sub>J</sub> =25 °C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
<b>Off Characteristics</b>						
Drain-Source Breakdown Voltage	BV <sub>DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = -250μA	-20			V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = -16V, V <sub>GS</sub> = 0V			-1	μA
Gate –Source leakage current	I <sub>GSS</sub>	V <sub>GS</sub> = ±12 V, V <sub>DS</sub> = 0V			± 100	nA
<b>On Characteristics</b>						
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>GS</sub> = V <sub>DS</sub> , I <sub>D</sub> = -250μA	-0.35	-0.63	-1.00	V
Static Drain-Source On-Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> = -4.5V, I <sub>D</sub> = -3.3A		52	61	mΩ
		V <sub>GS</sub> = -2.5V, I <sub>D</sub> = -2.8 A		65	71	mΩ
Forward Transconductance	g <sub>FS</sub>	V <sub>DS</sub> = -5 V, I <sub>D</sub> = -3.3A		3.0		S
<b>Dynamic Characteristics</b>						
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = -6 V, V <sub>GS</sub> = 0V, f = 1.0 MHz			700	pF
Output Capacitance	C <sub>oss</sub>				160	pF
Reverse Transfer Capacitance	C <sub>rss</sub>				120	pF
<b>Switching Characteristics</b>						
Turn-On Delay Time	t <sub>d(on)</sub>	V <sub>GS</sub> = -4.5V, V <sub>DD</sub> = -6 V, I <sub>D</sub> = -1.0A, R <sub>G</sub> = 6.0Ω,			25	ns
Turn-On Rise Time	t <sub>r</sub>				55	ns
Turn-Off Delay Time	t <sub>d(off)</sub>				90	ns
Turn-Off Fall Time	t <sub>f</sub>				60	ns
Total Gate Charge	Q <sub>G(TOT)</sub>	V <sub>DS</sub> = -6 V, I <sub>D</sub> = -3.3A, V <sub>GS</sub> = -4.5V		8	13	nC
Threshold gate charge	Q <sub>G(TH)</sub>			0.2		nC
Gate-Source Charge	Q <sub>GS</sub>			1.2		nC
Gate-Drain Charge	Q <sub>GD</sub>			2.2		nC
<b>Drain-Source Diode Characteristics and Maximun Ratings</b>						
Forward Diode Voltage	V <sub>SD</sub>	V <sub>GS</sub> = 0V, I <sub>S</sub> = -1.6A		-0.8		V