

## PW3407L

### 30V P-Channel MOSFET

-4.1A -30V;  $R_{DS(ON)typ}=45m\Omega@-10V$ ,  $R_{DS(ON)typ}=65m\Omega@-4.5V$

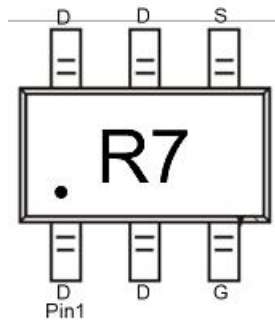
#### FEATURE

- Trench Power MOSFET
- Excellent  $R_{DS(on)}$
- Low Gate Charge

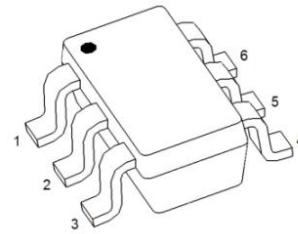
#### Application

- Load switch
- PWM Application

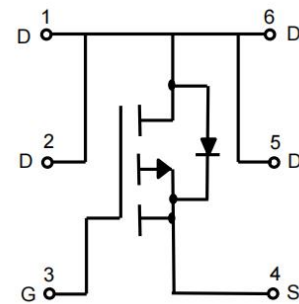
#### MARKING:



#### SOT-23-6L



#### Schematic diagram



#### ABSOLUTE MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	-30	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Continuous Drain Current	$I_D$	-4.1	A
Power Dissipation	$P_D$	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	$^\circ\text{C}/\text{W}$
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-55~+150	$^\circ\text{C}$

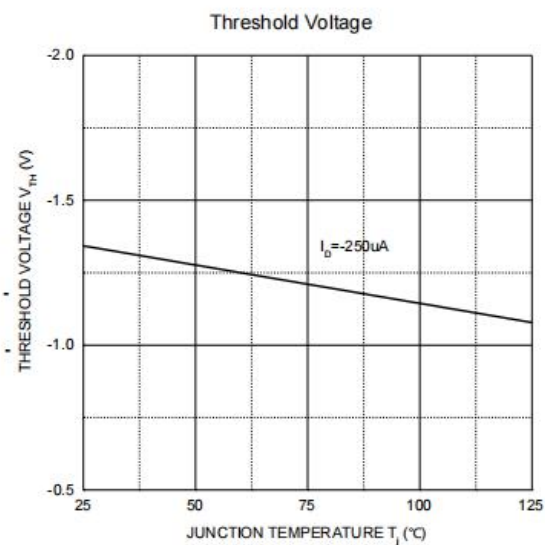
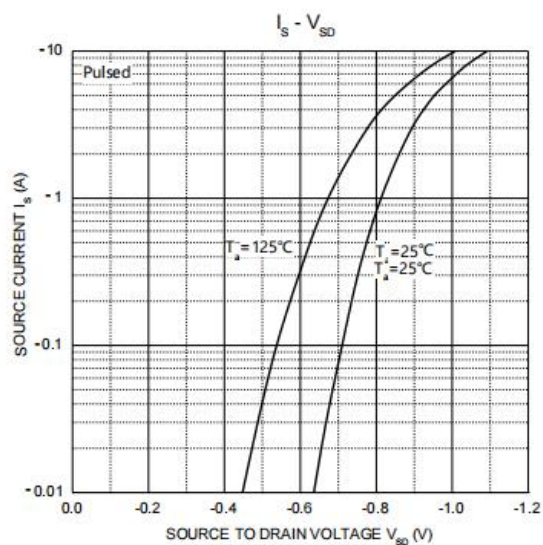
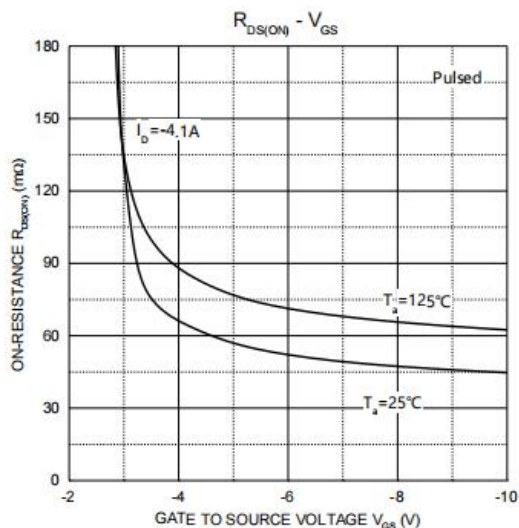
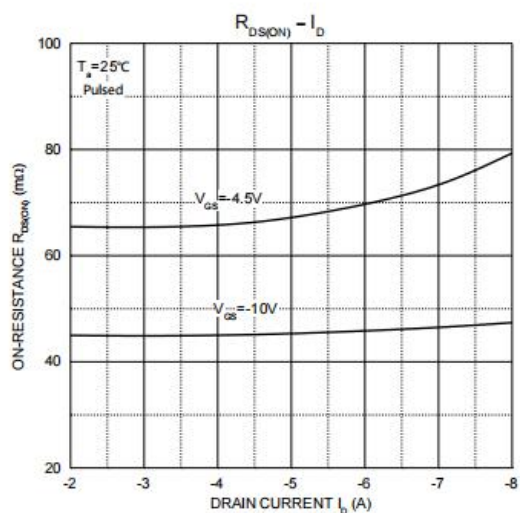
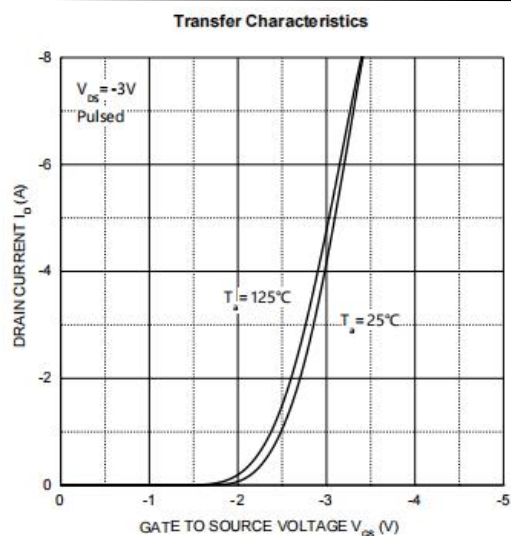
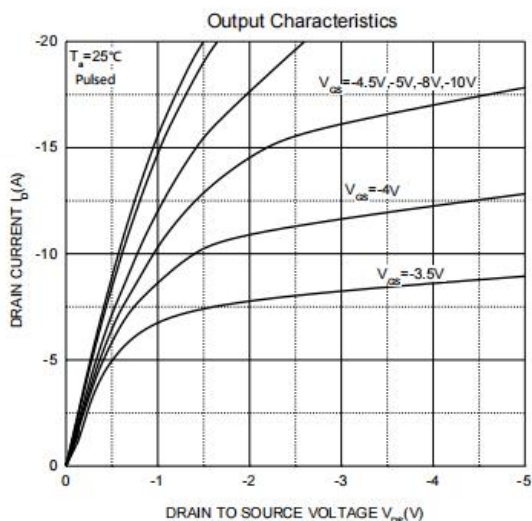
**MOSFET ELECTRICAL CHARACTERISTICS(T<sub>a</sub>=25°C unless otherwise noted)**

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
<b>Static Characteristics</b>						
Drain-source breakdown voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = -250μA	-30			V
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> = -24V, V <sub>GS</sub> = 0V			-1	μA
Gate-body leakage current	I <sub>GSS</sub>	V <sub>GS</sub> = ±20V, V <sub>DS</sub> = 0V			±100	nA
Gate threshold voltage <sup>(1)</sup>	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -250μA	-1	-1.4	-3	V
Drain-source on-resistance <sup>(1)</sup>	R <sub>DS(on)</sub>	V <sub>GS</sub> = -10V, I <sub>D</sub> = -4.1A		45	60	mΩ
		V <sub>GS</sub> = -4.5V, I <sub>D</sub> = -3A		65	87	
Forward tranconductance <sup>(1)</sup>	g <sub>FS</sub>	V <sub>DS</sub> = -5V, I <sub>D</sub> = -4A	5.5			S
Diode Forward voltage <sup>(1)</sup>	V <sub>DS</sub>	V <sub>GS</sub> = 0V, I <sub>S</sub> = -1.0A			-1	V
<b>Dynamic characteristics</b>						
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = -15V, V <sub>GS</sub> = 0V, f = 1MHz		550		pF
Output Capacitance	C <sub>oss</sub>			70		
Reverse Transfer Capacitance	C <sub>rss</sub>			60		
Total gate charge	Q <sub>g</sub>	V <sub>DS</sub> = -15V, V <sub>GS</sub> = -4.5V, I <sub>D</sub> = -3A		6		nC
Gate-source charge	Q <sub>gs</sub>			2		
Gate-drain charge	Q <sub>gd</sub>			1.7		
Turn-on delay time	t <sub>d(on)</sub>	V <sub>DD</sub> = -15V, V <sub>GS</sub> = -10V, R <sub>G</sub> = 3.3Ω, I <sub>D</sub> = -3A		2.7		ns
Turn-on rise time	t <sub>r</sub>			8.2		
Turn-off delay time	t <sub>d(off)</sub>			35		
Turn-off fall time	t <sub>f</sub>			5		

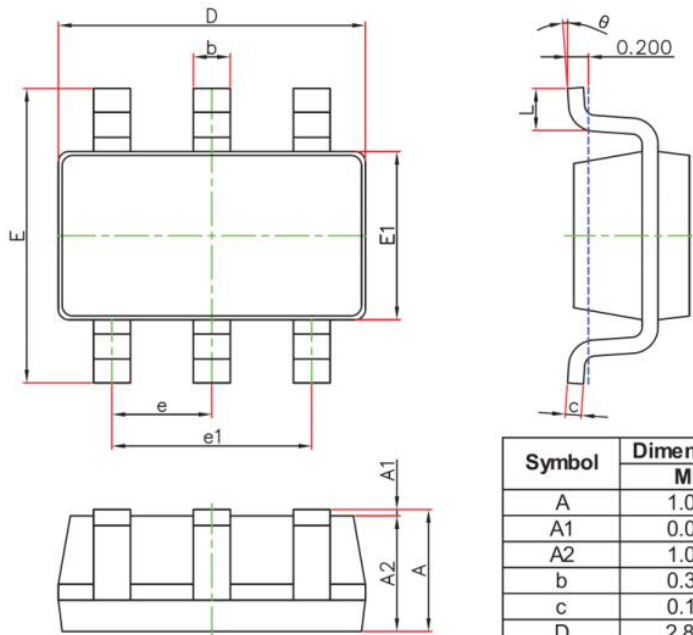
**Notes:**

1. Pulse Test : Pulse width ≦ 300μs, duty cycle ≦ 2%.

## Typical Electrical and Thermal Characteristics



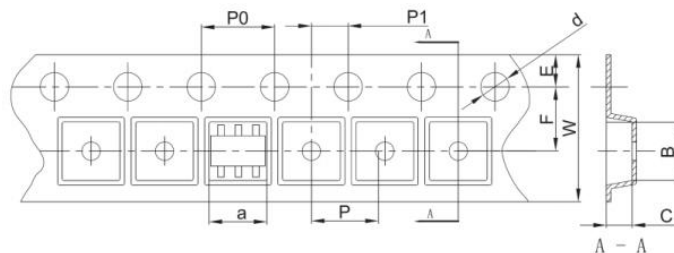
### SOT-23-6L Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

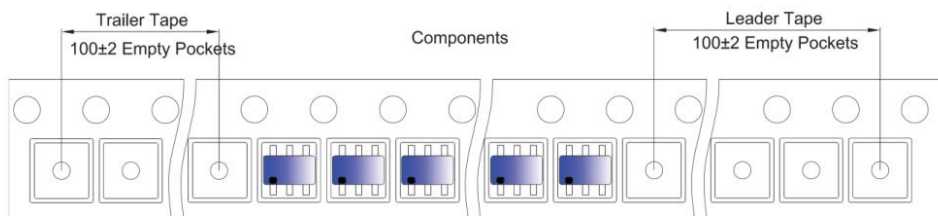
SOT-23-6L Tape and Reel

SOT-23-6L Embossed Carrier Tape

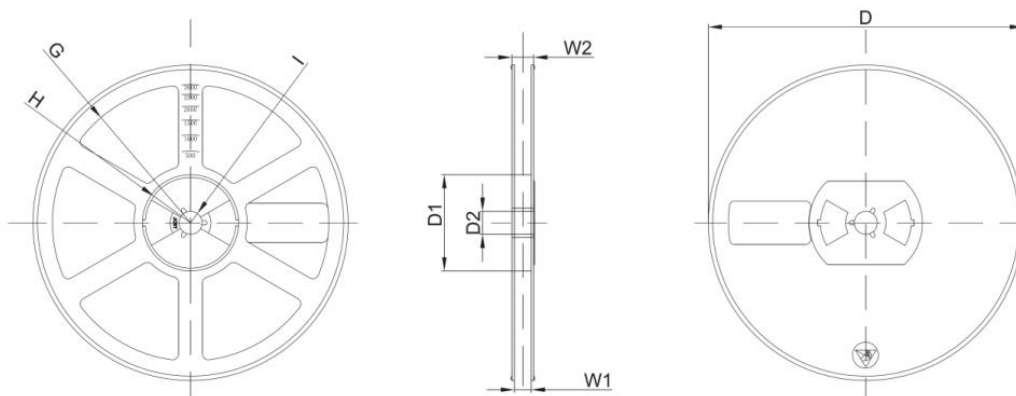


Dimensions are in millimeter										
Pkg type	a	B	C	d	E	F	P0	P	P1	W
SOT-23-6L	3.17	3.23	1.37	Ø1.55	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23-6L Tape Leader and Trailer



SOT-23-6L Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø180.00	60.00	13.00	R78.00	R25.60	R6.50	9.50	13.10

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	30,000 pcs	203×203×195	120,000 pcs	438×438×220	