

PWK3402
30V N-Channel MOSFET

4A 30V; $R_{DS(ON)typ}=40m\Omega@4.5V$, $R_{DS(ON)typ}=48m\Omega@2.5V$,
 $R_{DS(ON)typ}=38m\Omega@10V$

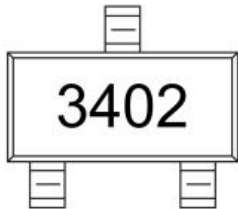
FEATURE

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

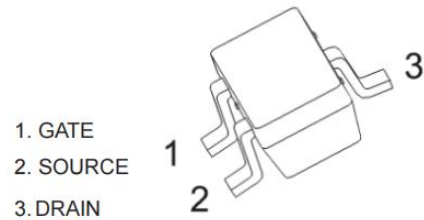
Application

- DC/DC Converter
- Load Switch for Portable Devices
- Battery Switch

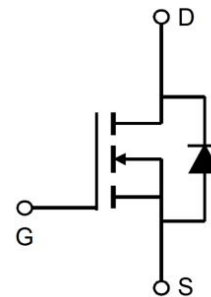
MARKING:



SOT-23-3L



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}	± 12	V
Continuous Drain Current	I_D	4	A
Pulsed Drain Current ⁽¹⁾	I_{DM}	15	A
Power Dissipation	P_D	0.45	W
Thermal Resistance from Junction to Ambient ⁽²⁾	$R_{\theta JA}$	313	$^\circ\text{C/W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^\circ\text{C}$

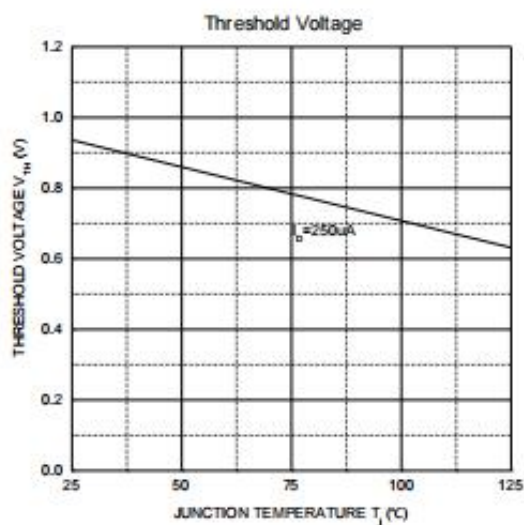
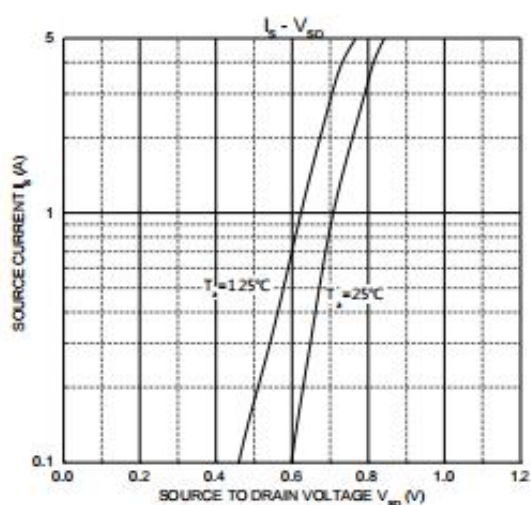
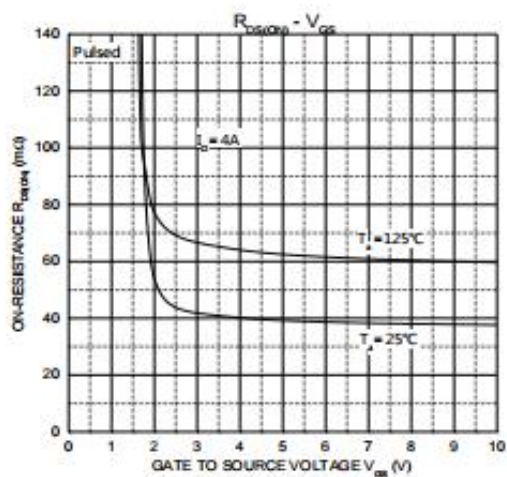
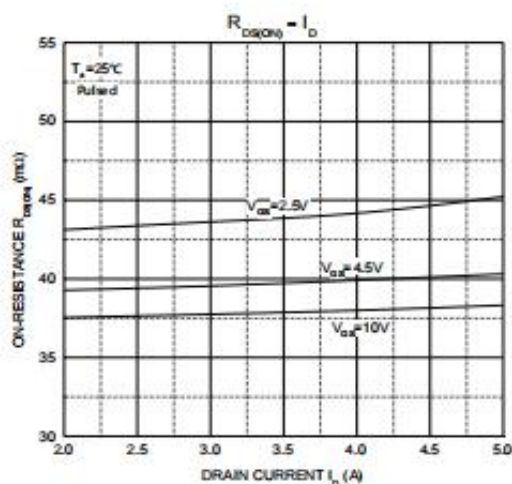
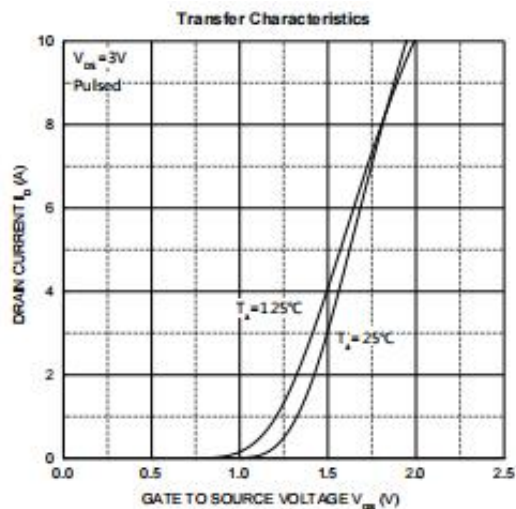
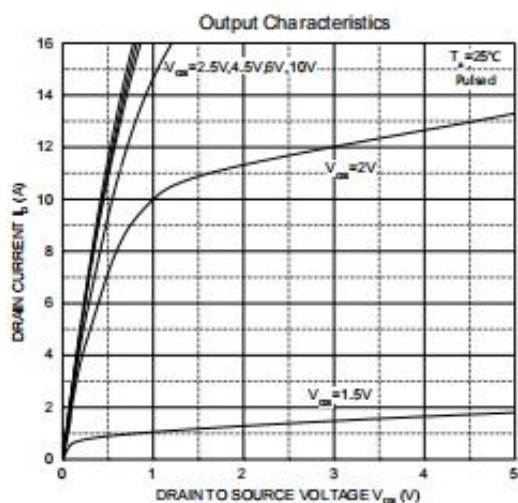
MOSFET ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
STATIC CHARACTERISTICS						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	30			V
Zero gate voltage drain current	I _{DSS}	V _{DS} = 30V, V _{GS} = 0V			1	μA
Gate-body leakage current	I _{GSS}	V _{GS} = ±12V, V _{DS} = 0V			±100	nA
Gate threshold voltage ⁽³⁾	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	0.5	0.9	1.5	V
Drain-source on-resistance ⁽³⁾	R _{DS(on)}	V _{GS} = 10V, I _D = 4A		38	50	mΩ
		V _{GS} = 4.5V, I _D = 3A		40	54	
		V _{GS} = 2.5V, I _D = 2A		48	67	
Forward tranconductance ⁽³⁾	g _{FS}	V _{DS} = 5V, I _D = 3.6A		13		S
DYNAMIC CHARACTERISTICS⁽⁴⁾						
Input Capacitance	C _{iss}	V _{DS} = 15V, V _{GS} = 0V, f = 1MHz		389		pF
Output Capacitance	C _{oss}			54		
Reverse Transfer Capacitance	C _{rss}			40		
Gate resistance	R _g	V _{DS} = 0V, V _{GS} = 0V, f = 1MHz		3.5		Ω
SWITCHING CHARACTERISTICS⁽⁴⁾						
Turn-on delay time	t _{d(on)}	V _{GS} = 10V, V _{DS} = 15V, R _L = 3.75Ω, R _{GEN} = 6Ω		3.5		ns
Turn-on rise time	t _r			1.2		
Turn-off delay time	t _{d(off)}			22		
Turn-off fall time	t _f			2.2		
Total gate charge	Q _g	V _{DS} = 15V, V _{GS} = 4.5V, I _D = 4A		4.4		nC
Gate-source charge	Q _{gs}			0.7		
Gate-drain charge	Q _{gd}			1.3		
SOURCE-DRAIN DIODE CHARACTERISTICS						
Body Diode Voltage ⁽³⁾	V _{SD}	I _S = 1A, V _{GS} = 0V			1	V
Continuous Source-Drain Diode Current	I _S	T _C = 25°C			1.5	A

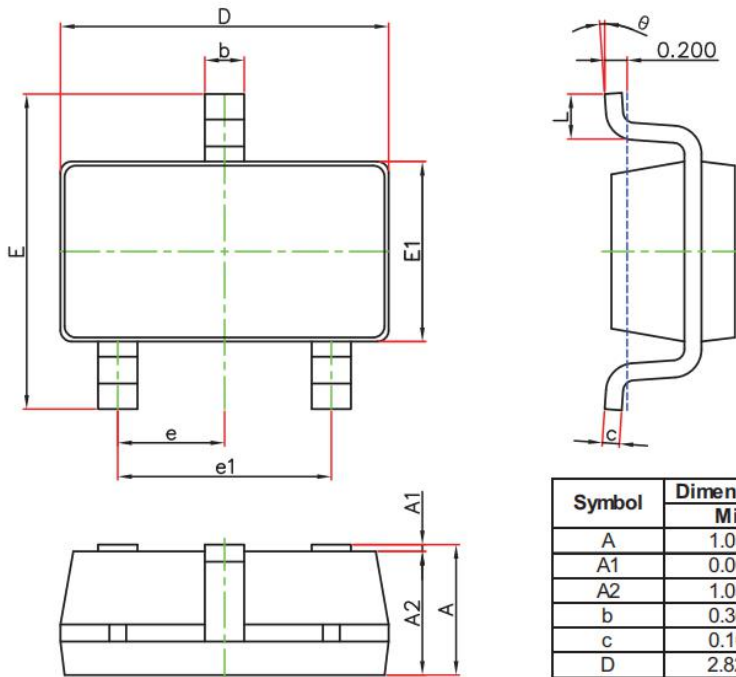
Notes:

1. Repetitive rating : Pulse width limited by junction temperature.
2. Surface mounted on FR4 board , t_s ≤ 10s.
3. Pulse Test : Pulse Width ≤ 80μs, Duty Cycle ≤ 0.5%.
4. Guaranteed by design, not subject to producing.

Typical Electrical and Thermal Characteristics



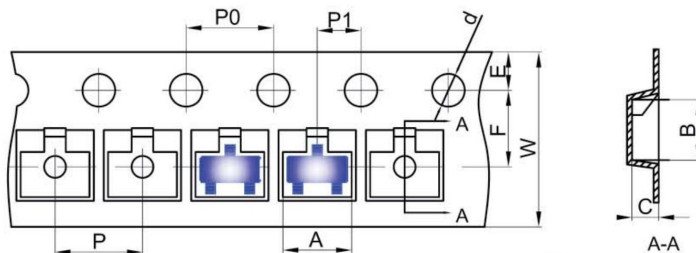
SOT-23-3L Package Information



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°

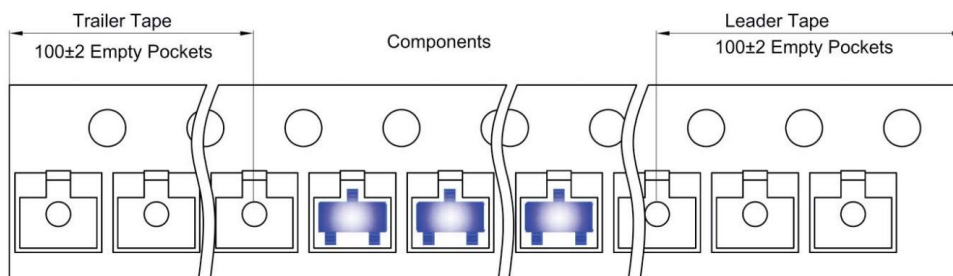
SOT-23-3L Tape and Reel

SOT-23-3L Embossed Carrier Tape

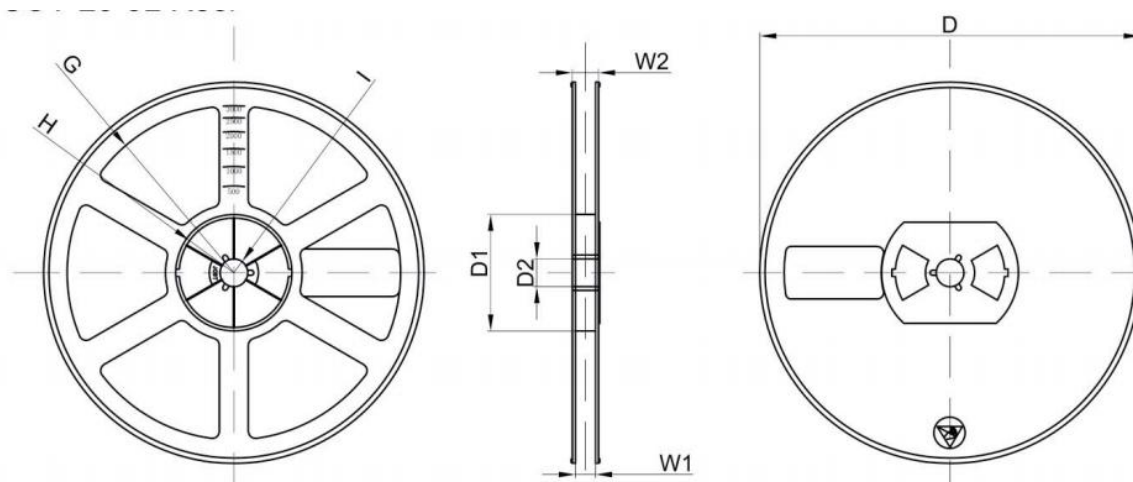


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23-3L	3.18	3.28	1.32	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23-3L Tape Leader and Trailer



SOT-23-3L 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	