重庆平伟实业股份有限公司
CHONGQING PINGWEI ENTERPRISE CO.,LTD

PW2310

60V N-Channel MOSFET

3A 60V；$R_{DS(ON)typ}$=70mΩ@10V，$R_{DS(ON)typ}$=82mΩ@4.5V

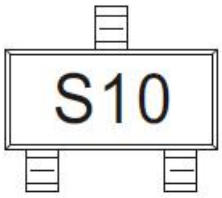
FEATURE

- High power and current handing capability
- Surface mount package

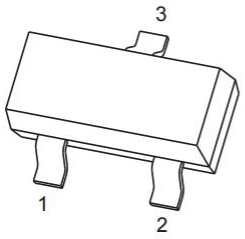
Application

- Battery Switch
- DC/DC Converter

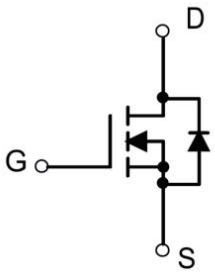
MARKING:



SOT-23



Schematic diagram



ABSOLUTE MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	3	A
Pulsed Drain Current(1)	I_{DM}	10	A
Maximum Power Dissipation	P_D	1.5	W
Thermal Resistance from Junction to Ambient(2)	$R_{\theta JA}$	83.3	℃/W
Junction And Storage Temperature Range	T_J,T_{STG}	-55~ +150	℃

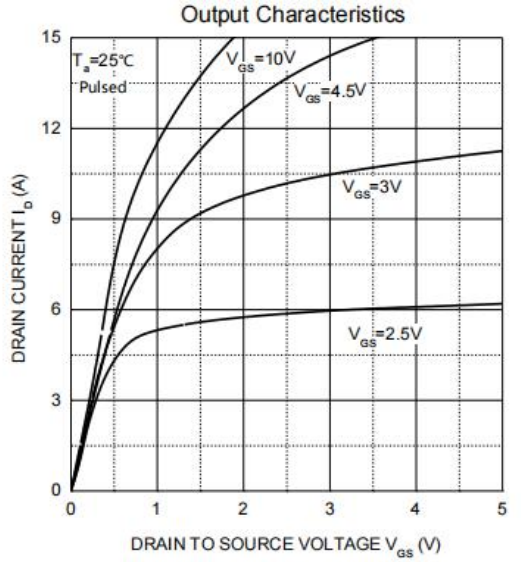
MOSFET ELECTRICAL CHARACTERISTICS(T_a=25℃ unless otherwise noted)

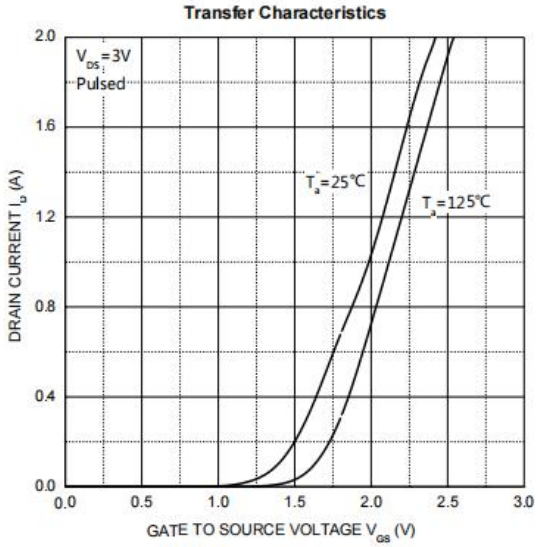
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
STATIC CHARACTERISTICS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	60			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =60V,V_{GS} = 0V			1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±100	nA
Gate threshold voltage(3)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	0.5	1.2	2	V
Drain-source on-resistance(3)	$R_{DS(on)}$	V_{GS} =10V, I_D =3A		70	90	mΩ
		V_{GS} =4.5V, I_D =3A		82	123	
Forward tranconductance(3)	g_{FS}	V_{DS} =15V, I_D =2A	1.4	2.5		S
DYNAMIC CHARACTERISTICS(4)						
Input Capacitance	C_{iss}	V_{DS} =30V,V_{GS} =0V,f=1MHz		250		pF
Output Capacitance	C_{oss}			26		
Reverse Transfer Capacitance	C_{rss}			20		
SWITCHING CHARACTERISTICS(4)						
Turn-on delay time	$t_{d(on)}$	V_{GS}=10V,V_{DD}=30V, I_D =1.5A,R_{GEN}=1Ω		6.5		ns
Turn-on rise time	t_r			15.2		
Turn-off delay time	$t_{d(off)}$			15.2		
Turn-off fall time	t_f			10.3		
Total gate charge	Q_g	V_{DS} =30V,V_{GS} =4.5V,I_D =3A		7		nC
Gate-source charge	Q_{gs}			1.2		
Gate-drain charge	Q_{gd}			1.5		
SOURCE-DRAIN DIODE CHARACTERISTICS(4)						
Body Diode Voltage	V_{SD}	I_S=3A, VGS = 0V		0.8	1.2	V

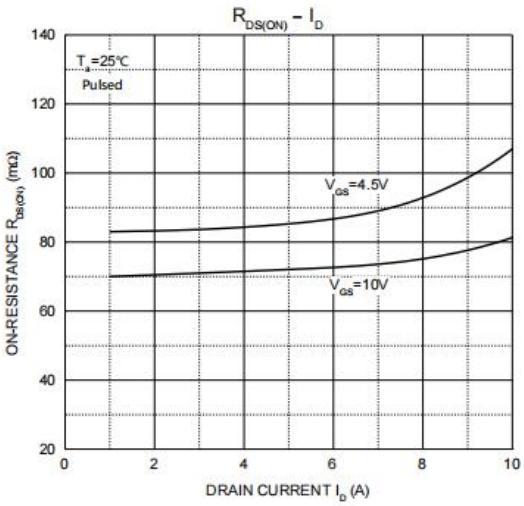
Notes:

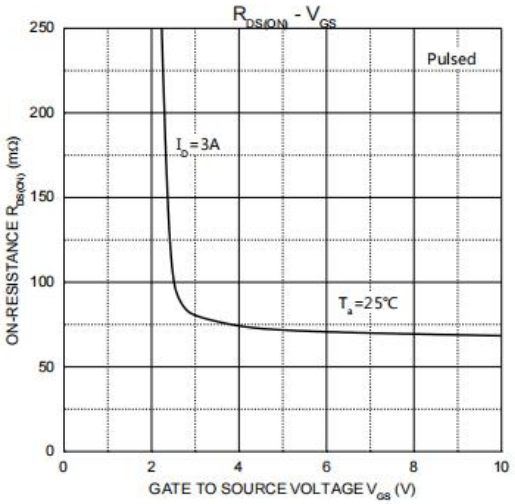
1. Repetitive rating : Pulse width limited by junction temperature.
2. Surface mounted on FR4 board , t≤10s.
3. Pulse Test : Pulse Width≤300μs, Duty Cycle≤0.5%.
4. Guaranteed by design, not subject to producting.

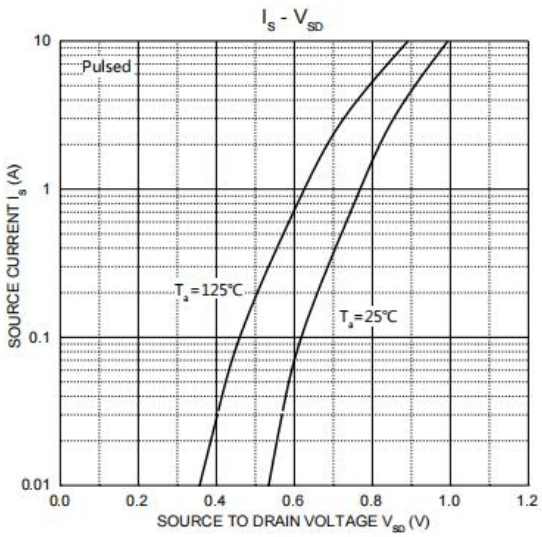
Typical Electrical and Thermal Characteristics

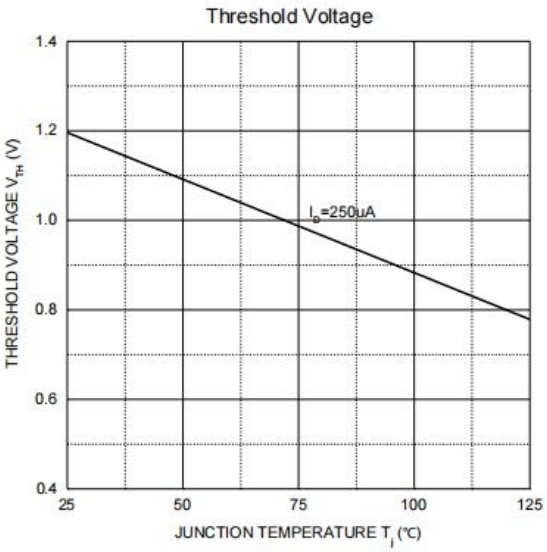




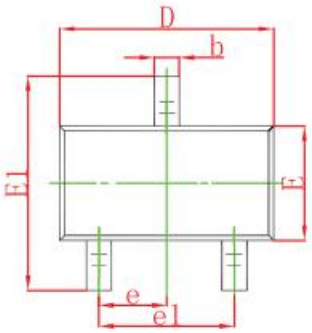


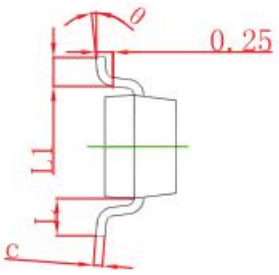


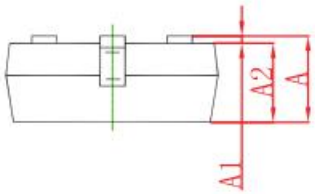




SOT-23 Package Information



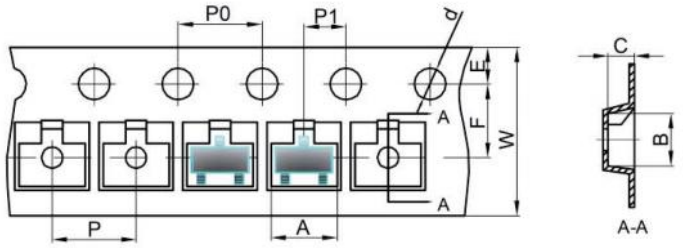




Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

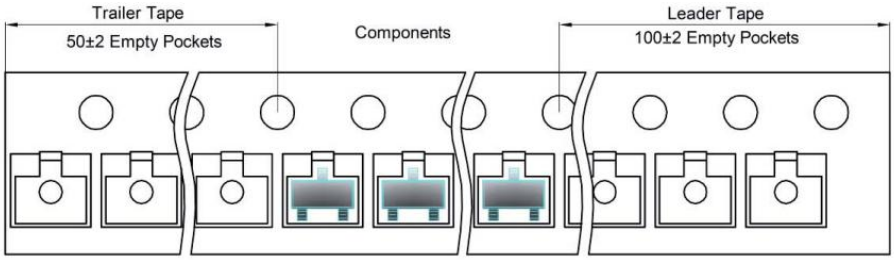
SOT-23 Tape and Reel

SOT-23 Embossed Carrier Tape

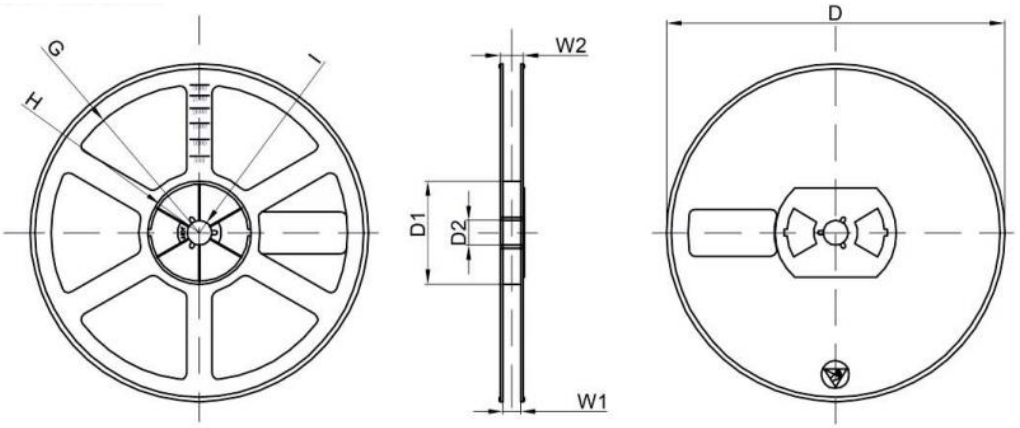


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23 Tape Leader and Trailer



SOT-23 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

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	