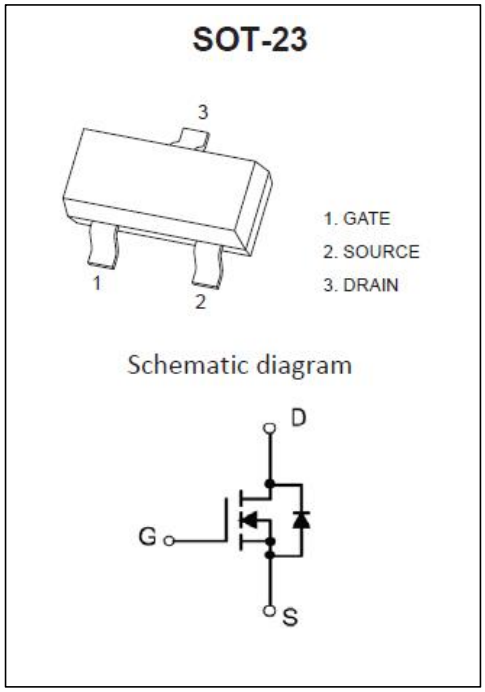
CHONGQING CLOUDCHILD TECHNOLOGY CO., LTD

SOT-23 Plastic-Encapsulate MOSFETS

CC2324

N-Channel Power MOSFET

V_{DSS}	$R_{DS(ON)}$(Typ.)	I_D
100 V	195mΩ@10V 208mΩ@4.5V	2A



DESCRIPTION

The CC2324 provides excellent $R_{DS(ON)}$ with low gate charge.

It can be used in a wide variety of applications.

FEATURES

- TrenchFET Power MOSFET
- Low RDS(on)
- AEC-Q101 Qualified

APPLICATIONS

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

MARKING

ABSOLUTE MAXIMUM RATINGS(T_j=25℃unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	2	A
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~ +150	℃

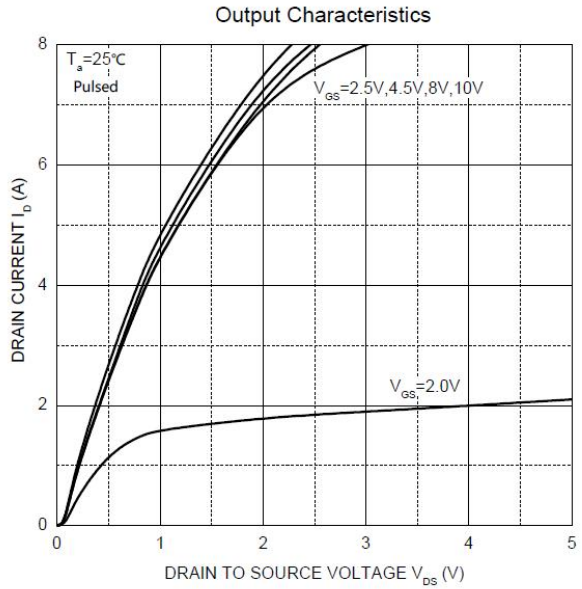
MOSFET ELECTRICAL CHARACTERISTICS(TC=25℃ unless otherwise noted)

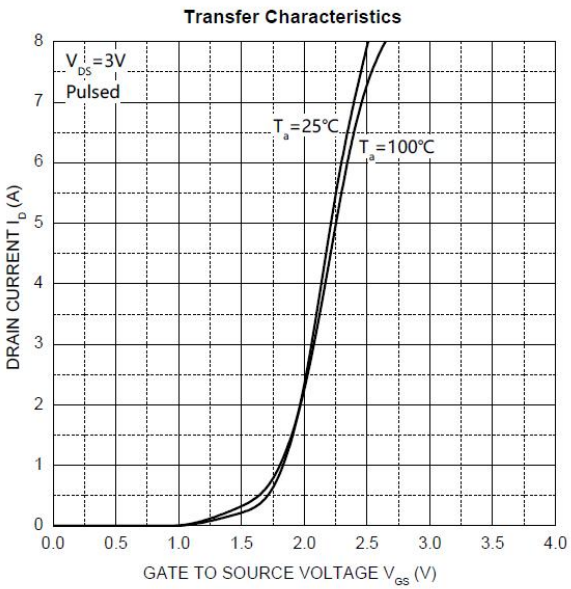
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =-250μA	100			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =80V,V_{GS} = 0V			1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±100	nA
Gate threshold voltage(1)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	1.2	1.5	2.5	V
Drain-source on-resistance(1)	$R_{DS(on)}$	V_{GS} =10V, I_D =1.5A		195	250	mΩ
		V_{GS} =6V, I_D =1A		200	260	
		V_{GS} =4.5V, I_D =0.5A		208	270	
Forward tranconductance(1)	g_{FS}	V_{DS} =5V, I_D =1A	1			S
Dynamic characteristics(2)						
Input Capacitance	C_{iss}	V_{DS} =50V,V_{GS} =0V,f =1MHz		190		pF
Output Capacitance	C_{oss}			22		
Reverse Transfer Capacitance	C_{rss}			13		
Switching characteristics(2)						
Turn-on delay time	$t_{d(on)}$	V_{DD}=50V,I_D=1.3A,R_L=39Ω V_{GS}=10V,R_G=1Ω		6		ns
Turn-on rise time	t_r			10		
Turn-off delay time	$t_{d(off)}$			10		
Turn-off fall time	t_f			6		
Total Gate Charge	Qg	VDS=50V,ID=1.3A, VGS=10V		5.2		nC
Gate-Source Charge	Qgs			0.75		
Gate-Drain Charge	Qgd			1.4		
Source-Drain Diode characteristics						
Diode Forward voltage(1)	V_{DS}	V_{GS} =0V, I_S=1A			1	V

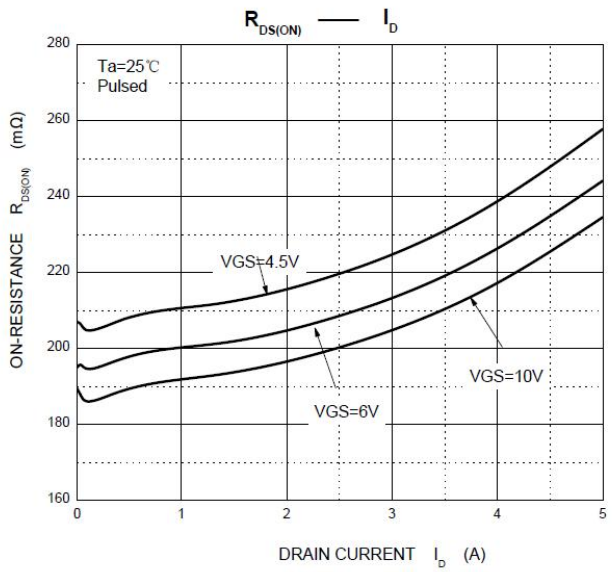
Notes:

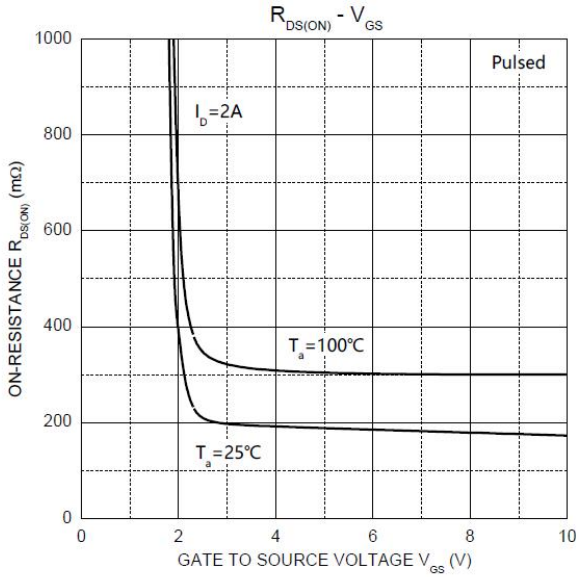
1. Pulse test; pulse width≤300μs, duty cycle≤2%.
2. Guaranteed by design, not subject to production testing.

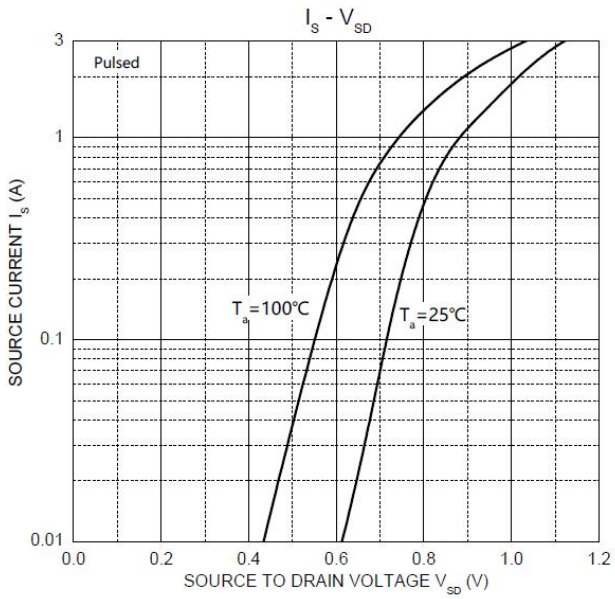
Characteristics Curve：

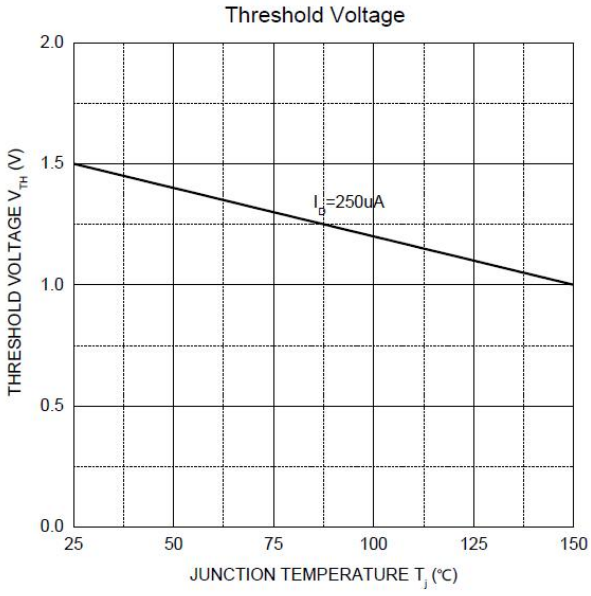




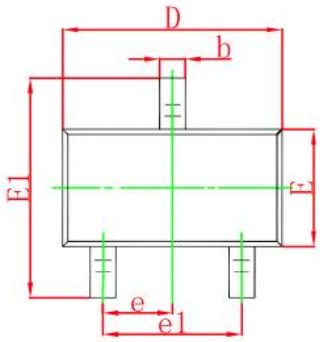


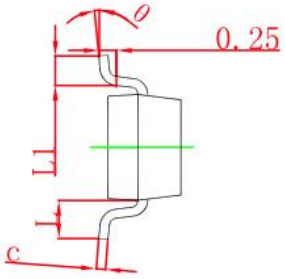


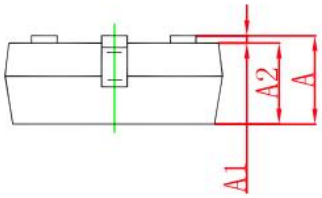




SOT-23 Package Outline Dimensions

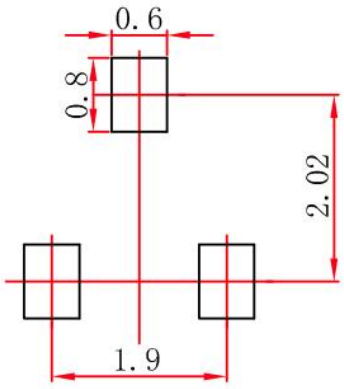






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 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°

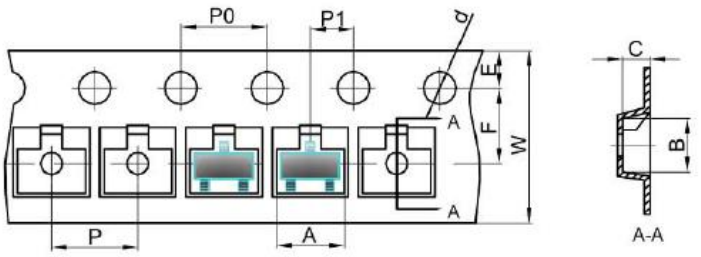
SOT-23 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

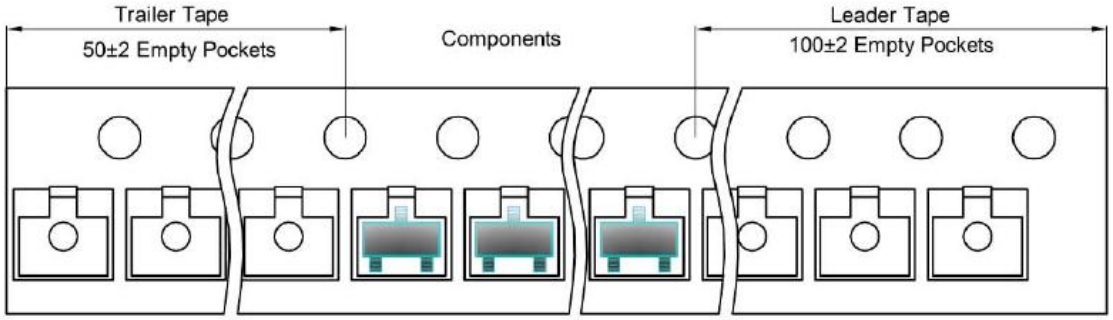
SOT-23 Tape and reel

SOT-23 Embossed Carrier Tape

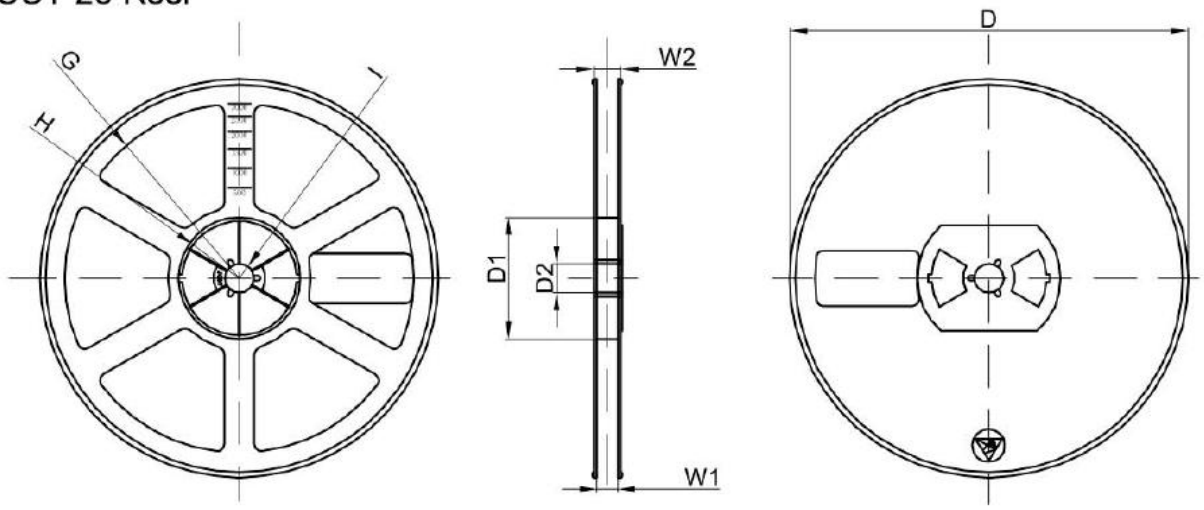


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

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	

Date of change	Rev #	revise content
2023/4/13	A/0	/