



CHONGQING CLOUDCHILD TECHNOLOGY CO.,LTD

SOT-23 Plastic-Encapsulate MOSFETS

CC2324

N-Channel Power MOSFET

V_{DS}	$R_{DS(ON)}$ (Typ.)	I_D
100 V	195m Ω @10V 208m Ω @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.

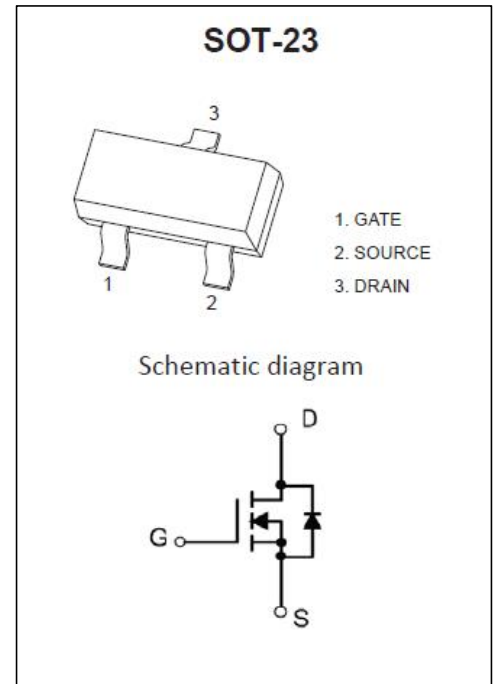
FEATURES

- TrenchFET Power MOSFET
- Low $R_{DS(on)}$
- AEC-Q101 Qualified

APPLICATIONS

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

MARKING



ABSOLUTE MAXIMUM RATINGS($T_J=25^{\circ}\text{C}$ 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	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$

MOSFET ELECTRICAL CHARACTERISTICS($TC=25^{\circ}\text{C}$ unless otherwise noted)

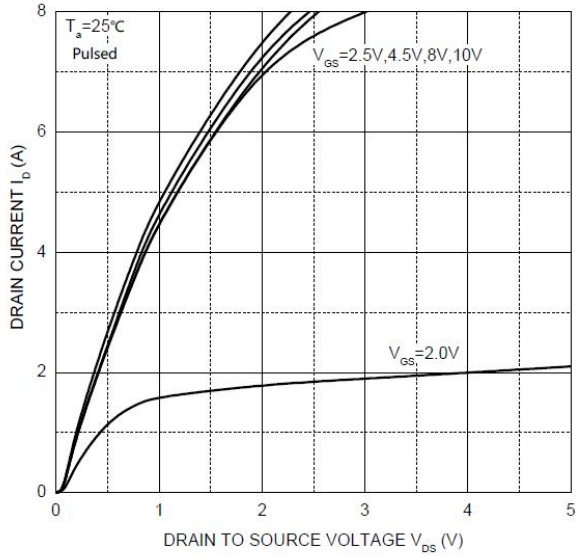
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu\text{A}$	100			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 80V, V_{GS} = 0V$			1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS}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

Notes:

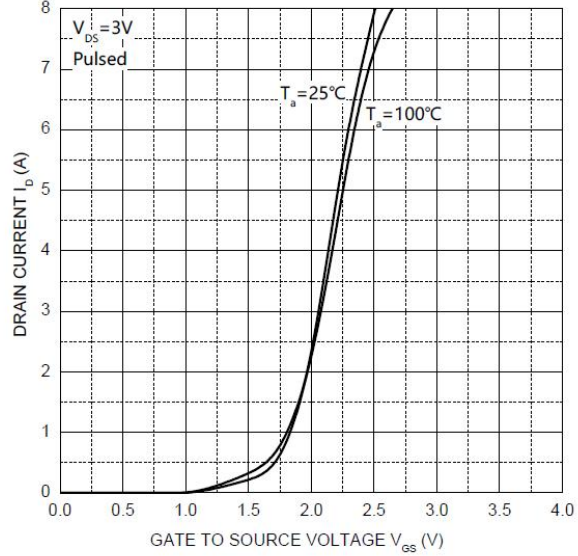
1. Pulse test; pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.
2. Guaranteed by design, not subject to production testing.

Characteristics Curve:

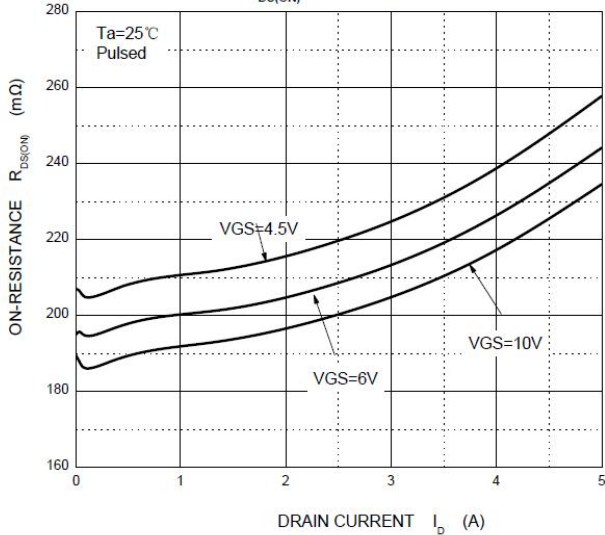
Output Characteristics



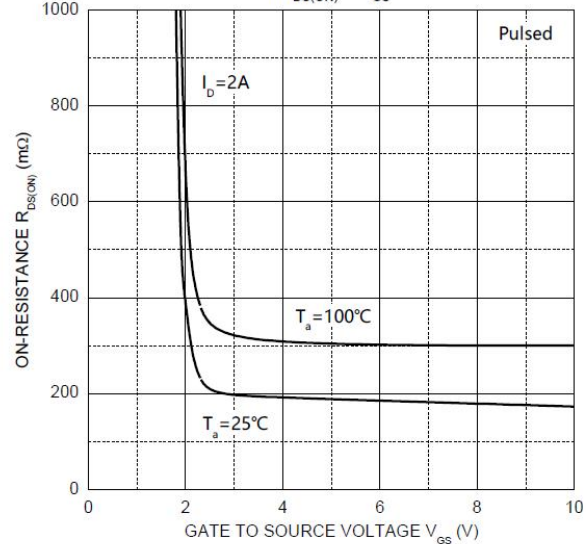
Transfer Characteristics



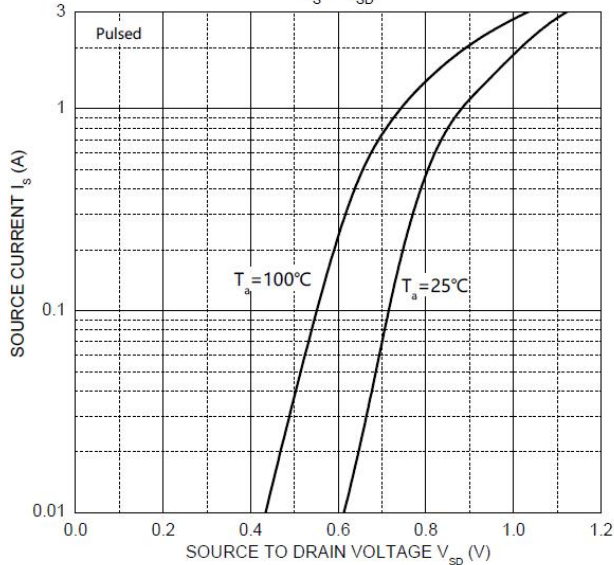
$R_{DS(ON)} - I_D$



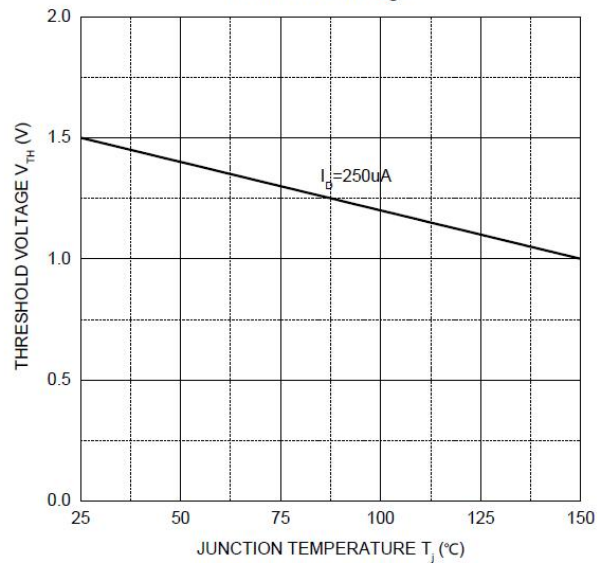
$R_{DS(ON)} - V_{GS}$



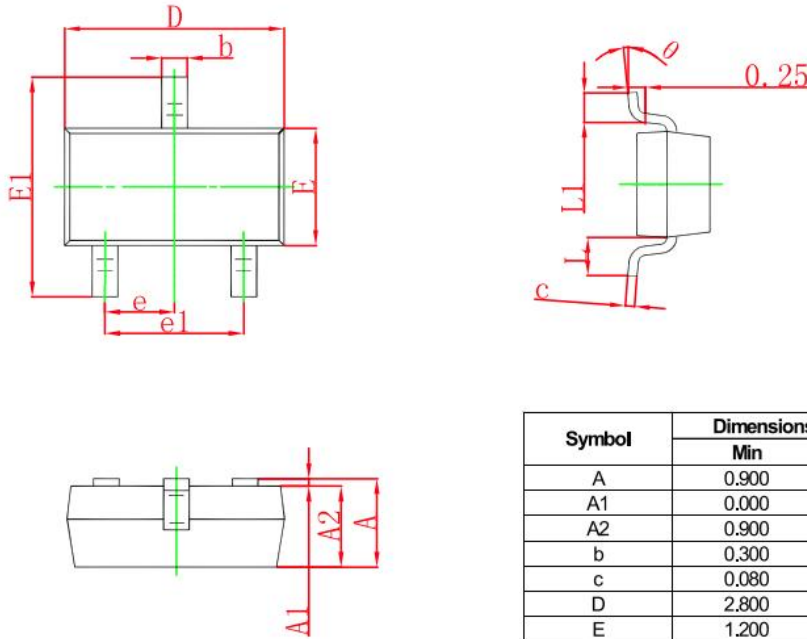
$I_S - V_{SD}$



Threshold Voltage

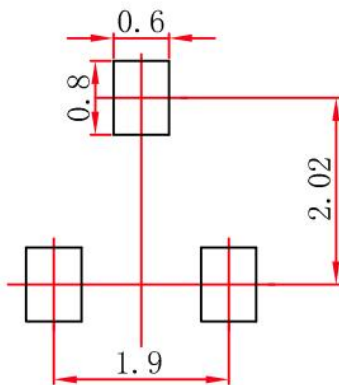


SOT-23 Package Outline Dimensions



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: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

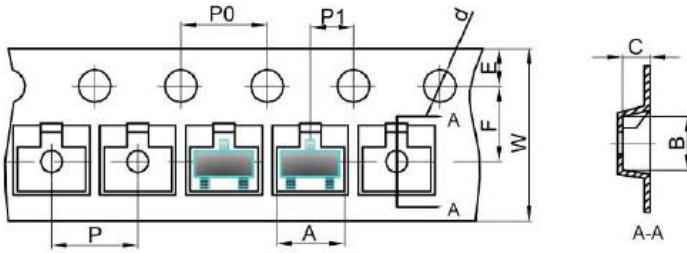
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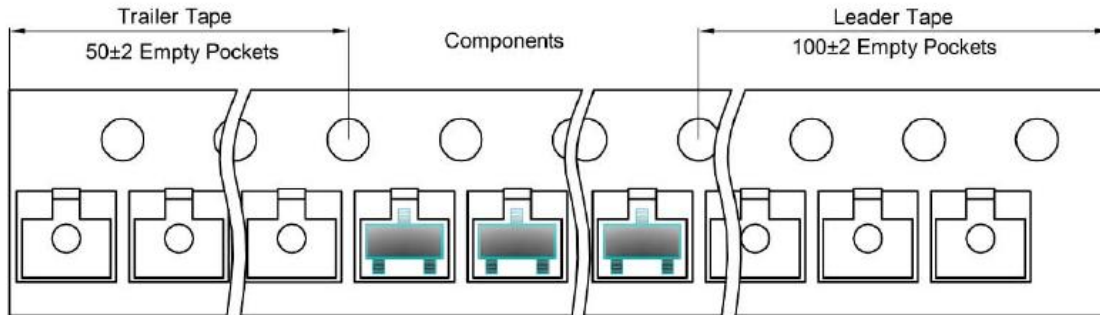
SOT-23 Tape and reel

SOT-23 Embossed Carrier Tape

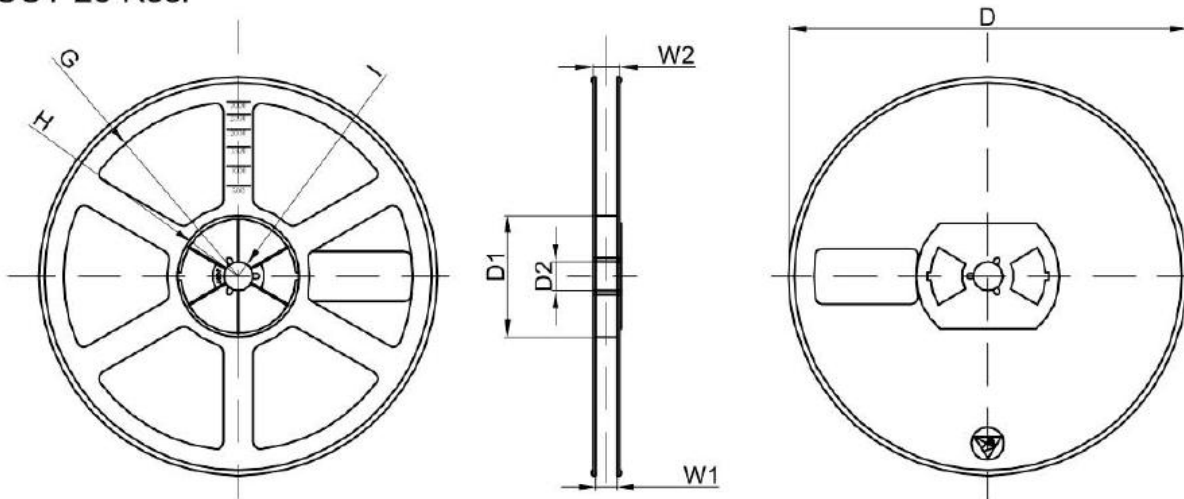


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

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	/