

PRODUCT CHARACTERISTICS

VDSS	20V
$R_{DS(on)}$ Typ(@ $V_{GS}=4.5V$)	60m Ω
$R_{DS(on)}$ Typ(@ $V_{GS}=2.5V$)	80m Ω
ID	2A

APPLICATIONS

Battery protection
Load switch
Power management

FEATURES

High Power and current handing capability
Lead free product is acquired
Surface Mount Package

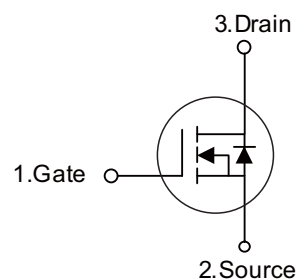
ORDER INFORMATION

Order codes		Package	Packing
Halogen-Free	Halogen		
N/A	SI2302	SOT-23	3000pieces/Reel

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage ($V_{GS}=0V$)	V_{DS}	20	V
Gate-Source Voltage ($V_{DS}=0V$)	V_{GS}	± 12	V
Drain Current-Continuous	I_D	2.0	A
Maximum Power Dissipation	P_D	0.6	W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 To 150	$^{\circ}C$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	357	$^{\circ}C/W$

Symbol

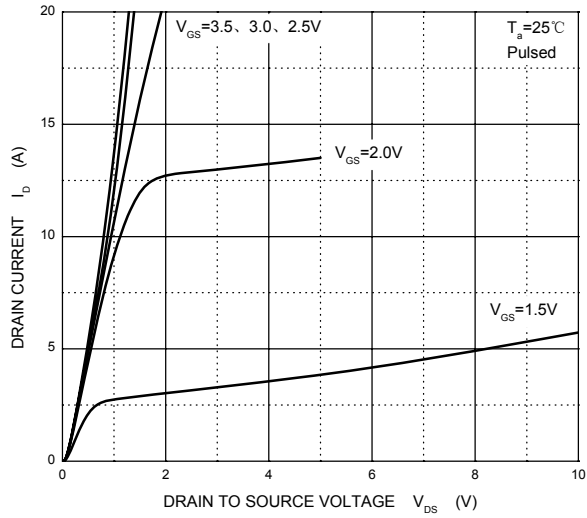


■ ELECTRICAL CHARACTERISTICS ($T_C=25^{\circ}\text{C}$, unless otherwise specified)

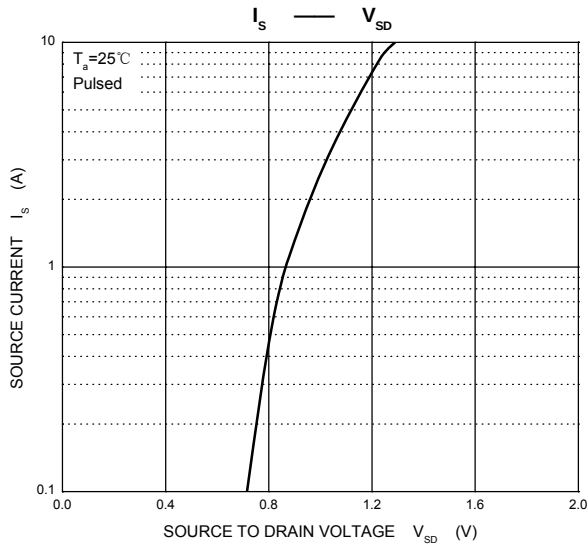
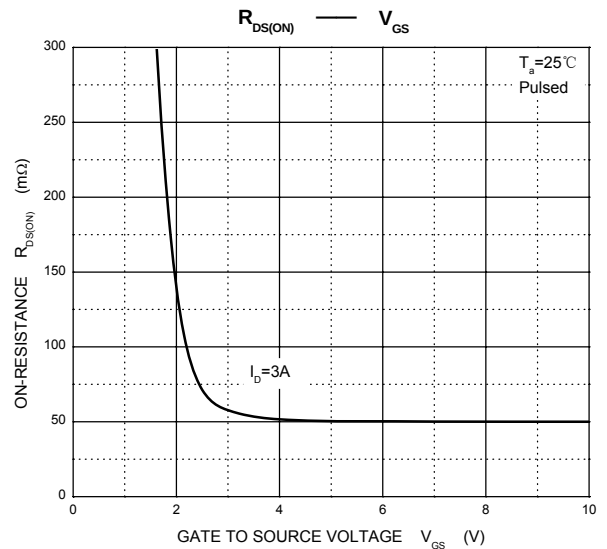
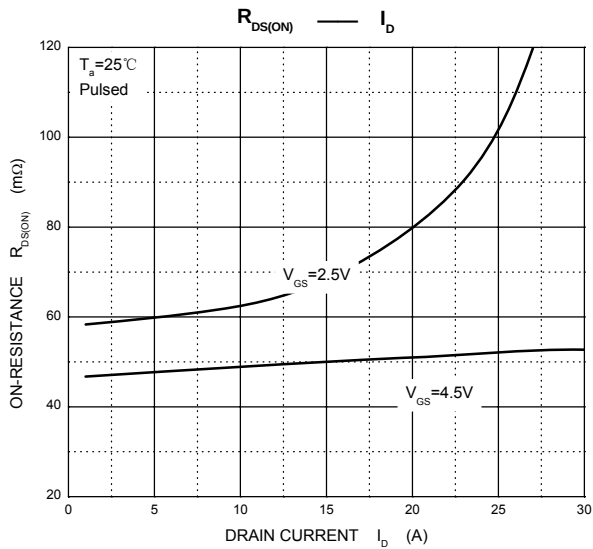
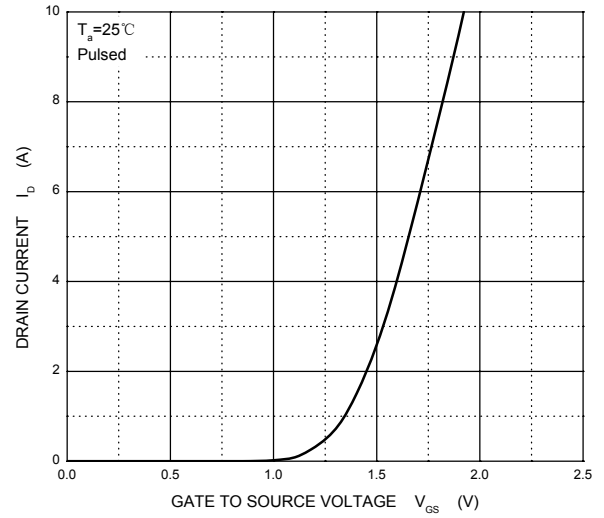
Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Static						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =10μA	20	-	-	V
Gate-threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.65	0.95	1.2	V
Gate-body leakage	I _{GSS}	V _{DS} =0V, V _{GS} =±8V	-	-	±100	nA
Zero gate voltage drain current	I _{DSS}	V _{DS} =20V, V _{GS} =0V	-	-	1	μA
Drain-source on-resistance	r _{DS(on)}	V _{GS} =4.5V, I _D =3A	-	0.055	0.07	Ω
		V _{GS} =2.5V, I _D =3A	-	0.08	0.11	Ω
Forward transconductance	g _{fs}	V _{DS} =5V, I _D =3A	-	8	-	S
Diode forward voltage	V _{SD}	I _S =0.94A,V _{GS} =0V	-	0.76	1.2	V
Dynamic						
Total gate charge	Q _g	V _{DS} =10V,V _{GS} =4.5V,I _D =3A	-	4.0	-	nC
Gate-source charge	Q _{gs}		-	0.65	-	nC
Gate-drain charge	Q _{gd}		-	1.5	-	nC
Input capacitance	C _{iSS}	V _{DS} =10V,V _{GS} =0V,f=1MHz	-	300	-	pF
Output capacitance	C _{oSS}		-	120	-	pF
Reverse transfer capacitance	C _{rSS}		-	80	-	pF
Switching						
Turn-on delay time	t _{d(on)}	V _{DD} =10V, R _L =5.5Ω, I _D ≈3A, V _{GEN} =4.5V,R _g =6Ω	-	7	-	ns
Rise time	t _r		-	55	-	ns
Turn-off delay time	t _{d(off)}		-	16	-	ns
Fall time	t _f		-	10	-	ns

■ TYPICAL CHARACTERISTICS

Output Characteristics

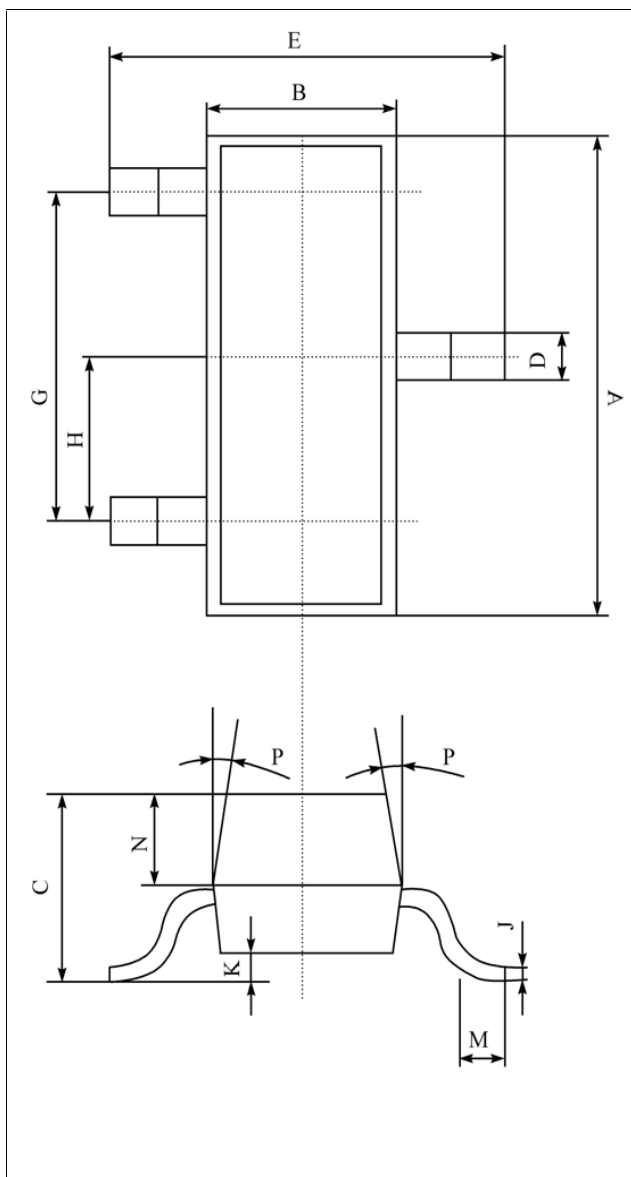


Transfer Characteristics



■ SOT-23 PACKAGE OUTLINE DIMENSIONS

单位 (UNIT) : mm



序号	数值及公差
A	2.90±0.10
B	1.30±0.10
C	1.00±0.10
D	0.40±0.10
E	2.40±0.20
G	1.90±0.10
H	0.95±0.05
J	0.13±0.05
K	0.00-0.10
M	≥0.20
N	0.60±0.10
P	7±2°

Packing

SOT-23 包装规格

SMD片式表面贴封装

包装方式: 载带卷盘包装

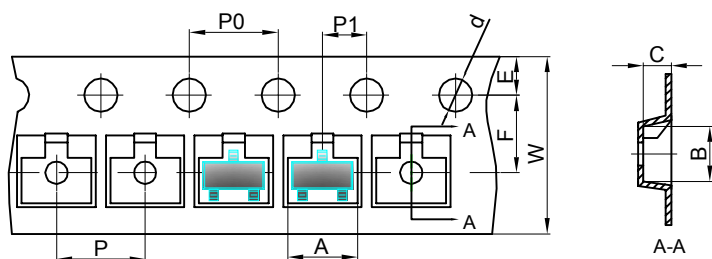
Tape & Reel, 3Kpcs/Reel

每卷数量3000只 (3Kpcs/Reel)

每盒数量45000只 (45Kpcs/BOX)

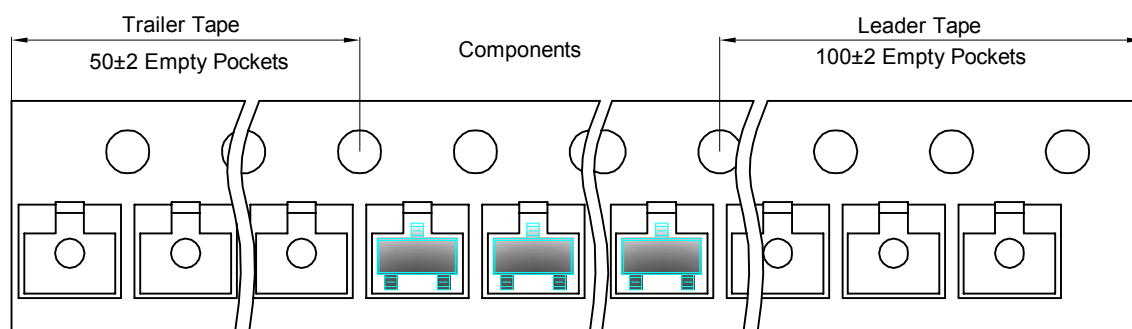
每箱数量180000只 (180Kpcs/Cartons)

SOT-23 Embossed Carrier Tape

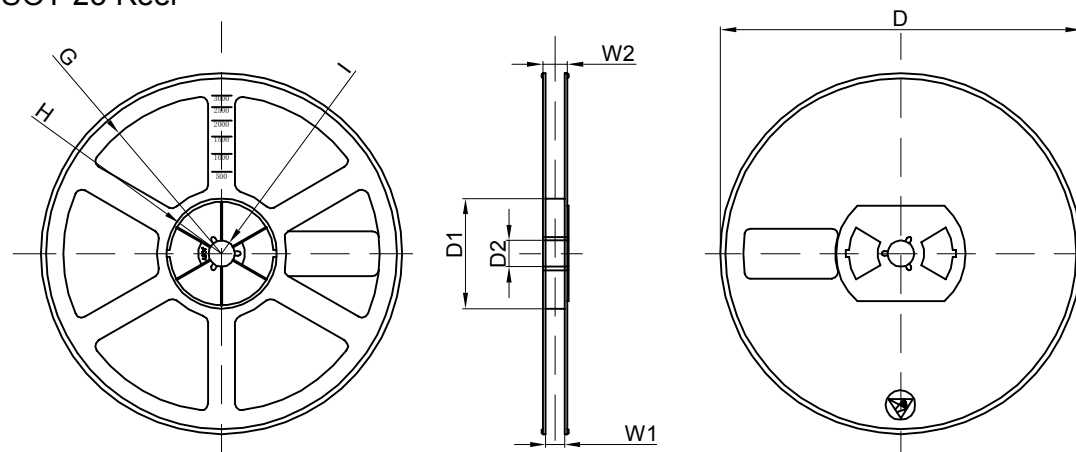


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

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	45,000 pcs	192×192×193	180,000 pcs	404×404×214	