

PRODUCT CHARACTERISTICS

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

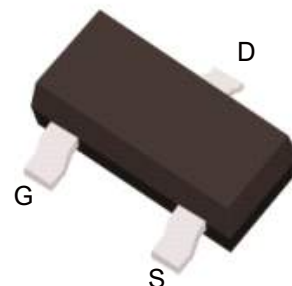
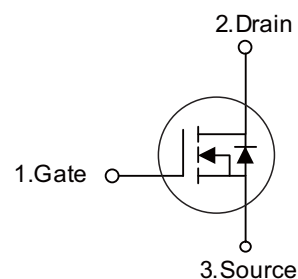
APPLICATIONS

Battery protection
Load switch
Power management

FEATURES

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

Symbol



ORDER INFORMATION

Order codes		Package	Packing
Halogen-Free	Halogen		
N/A	MOT2302B2	SOT-23	3000pieces/Reel

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

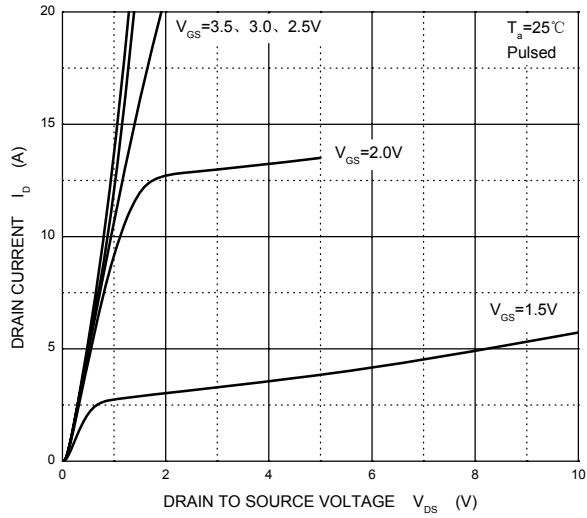
Parameter	Symbol	Value	Unit
Drain-Source Voltage ($V_{GS}=0V$)	V_{DS}	20	V
Gate-Source Voltage ($V_{DS}=0V$)	V_{GS}	± 12	V
Drain Current-Continuous	I_D	2.0	A
Maximum Power Dissipation	P_D	0.6	W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 To 150	$^{\circ}\text{C}$
Thermal Resistance,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

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

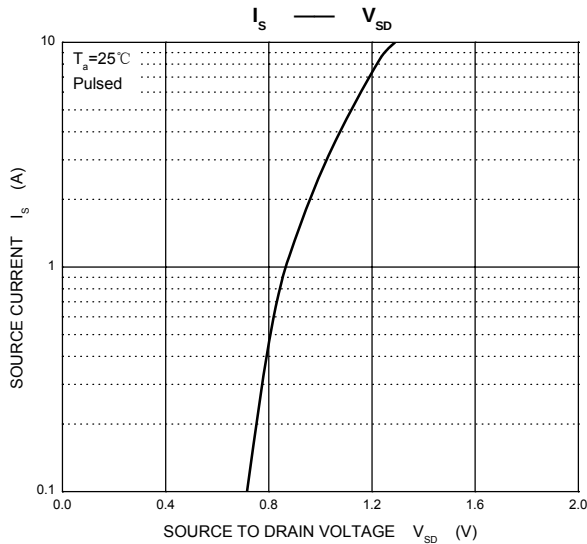
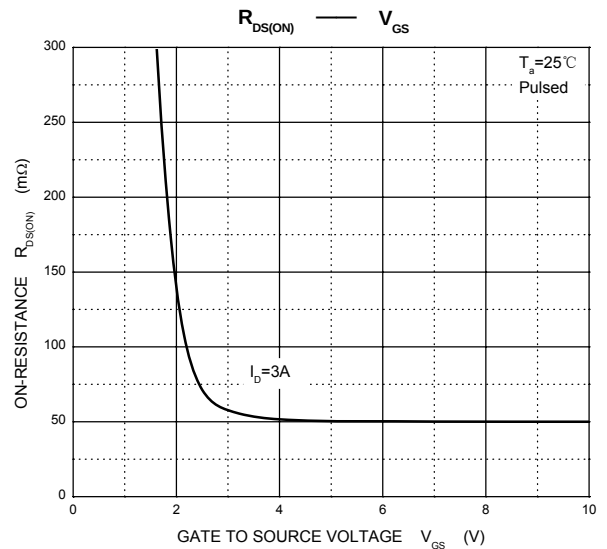
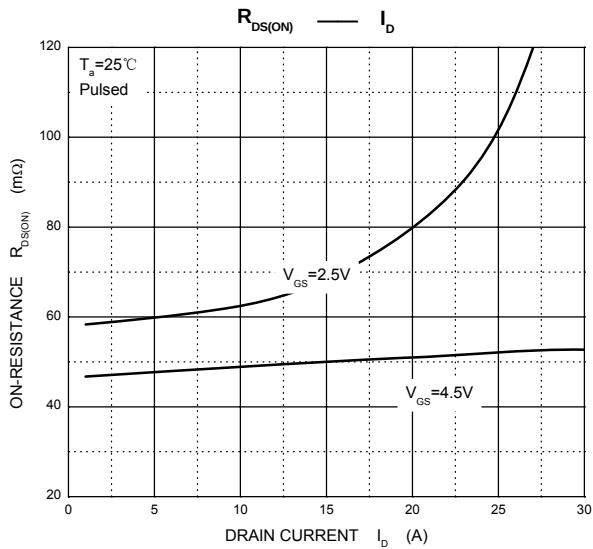
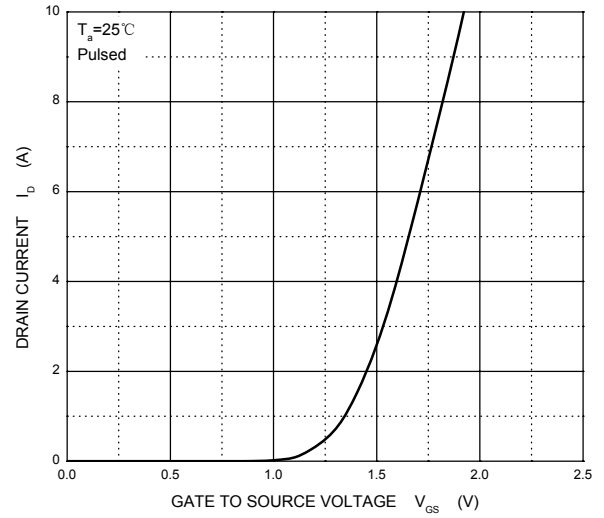
Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Static						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =10μA	20	-	-	V
Gate-threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.65	0.95	1.2	V
Gate-body leakage	I _{GSS}	V _{DS} =0V, V _{GS} =±8V	-	-	±100	nA
Zero gate voltage 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

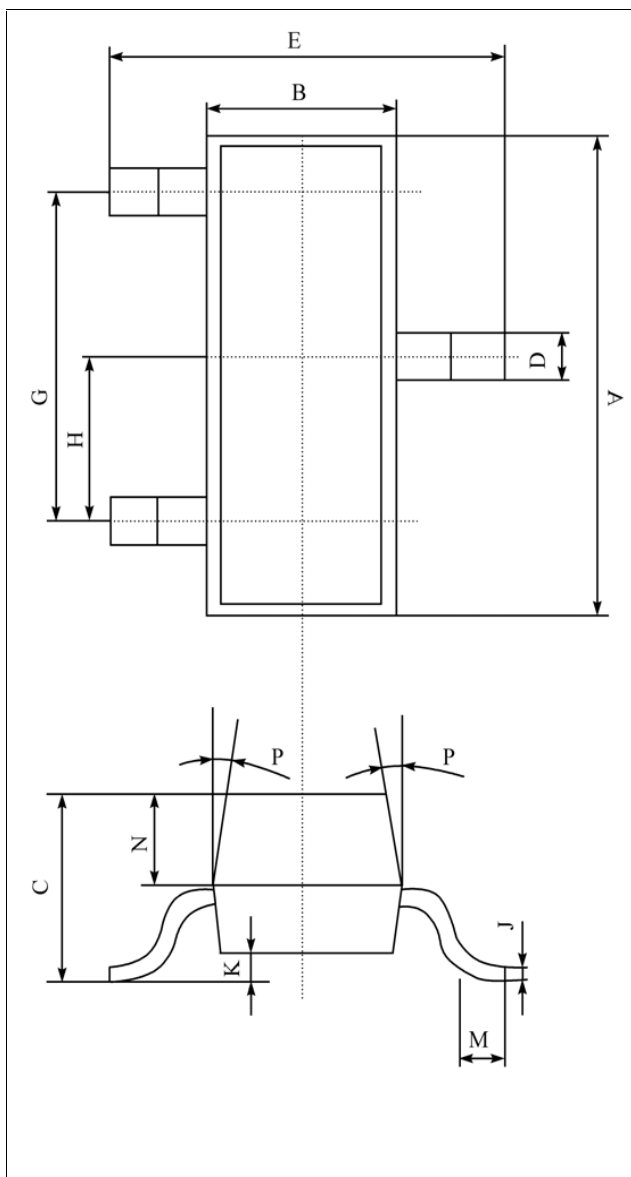


Transfer Characteristics



■ SOT-23-3L 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

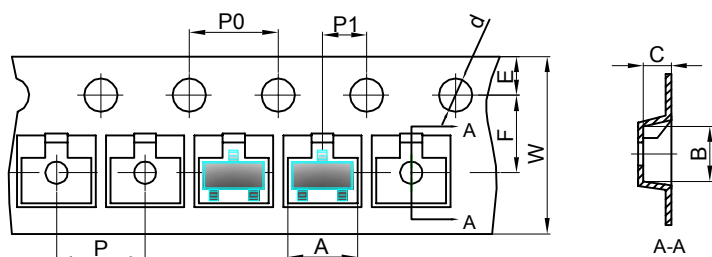
Tape & Reel, 3Kpcs/Reel

每卷数量3000只 (3Kpcs/Reel)

每盒数量45000只 (45Kpcs/BOX)

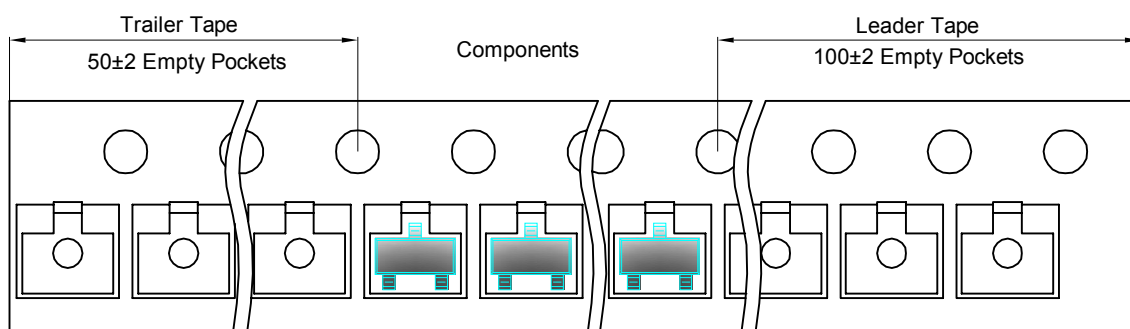
每箱数量180000只 (180Kpcs/Cartons)

SOT-23 Embossed Carrier Tape

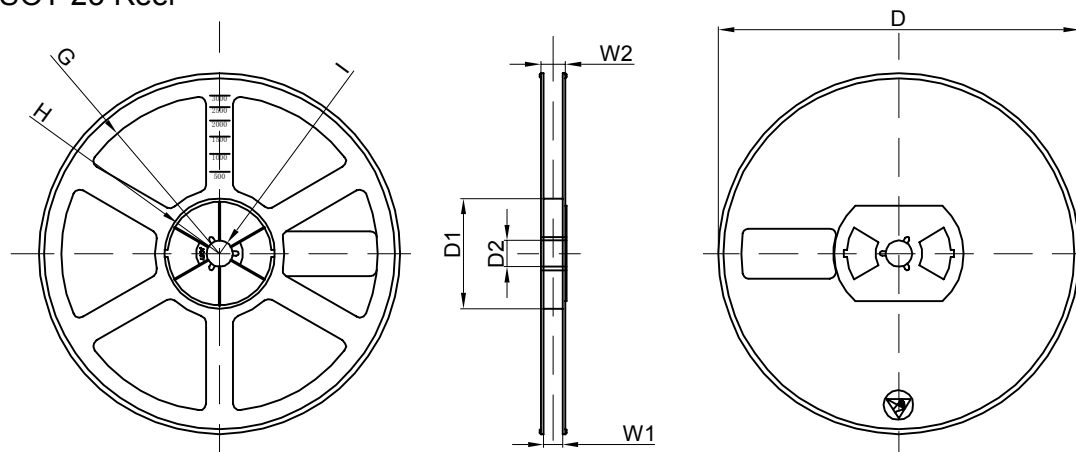


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

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	