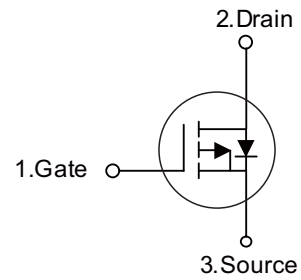


Symbol

■ PRODUCT CHARACTERISTICS

VDSS	-20V
$R_{DS(on)max}(V_{GS} @=-4.5V)$	32mΩ
$R_{DS(on)max}(V_{GS} @=-2.5V)$	45mΩ
ID	-4.2A

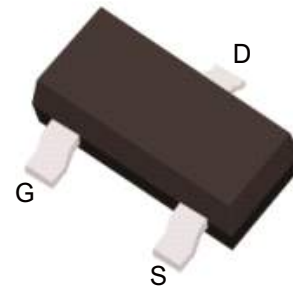


■ APPLICATIONS

- Load switch for portable
- DC/DC converter

■ FEATURES

- * High Density Cell Design For Ultra Low On-Resistance
- * Advanced trench process technology



■ ORDER INFORMATION

Order codes		Package	Packing
Halogen-Free	Halogen		
N/A	MOT2305	SOT-23	3000pieces/Reel

■ ABSOLUTE MAXIMUM RATINGS($T_A=25^{\circ}C$, unless otherwise specified)

PARAMETER	SYMBOL	RATING	UNITS
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 8	V
Continuous Drain Current (Note 3) ($T_A=25^{\circ}C$)	I_D	-4.2	A
Pulsed Drain Current	I_{DM}	-10	A
Power Dissipation	P_D	0.83	W
Junction Temperature	T_J	+150	$^{\circ}C$
Storage Temperature	T_{STG}	-55 ~ +150	$^{\circ}C$

■ THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	RATING	UNIT
Junction to Ambient	θ_{JA}	150	$^{\circ}C/W$

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

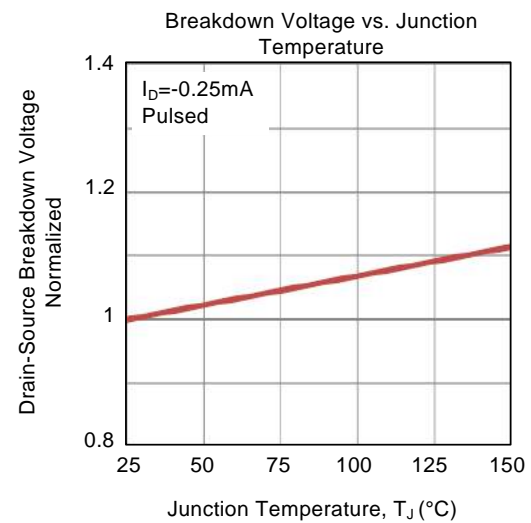
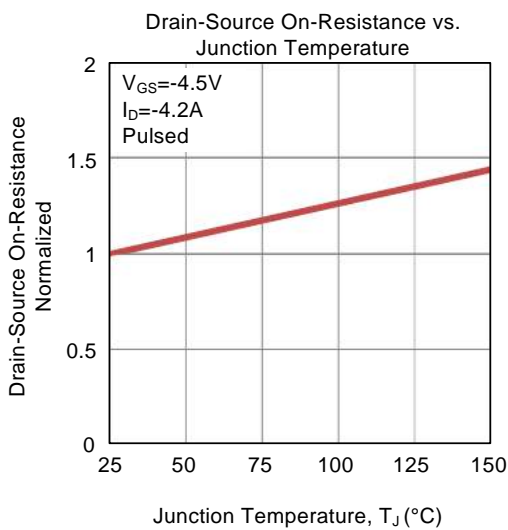
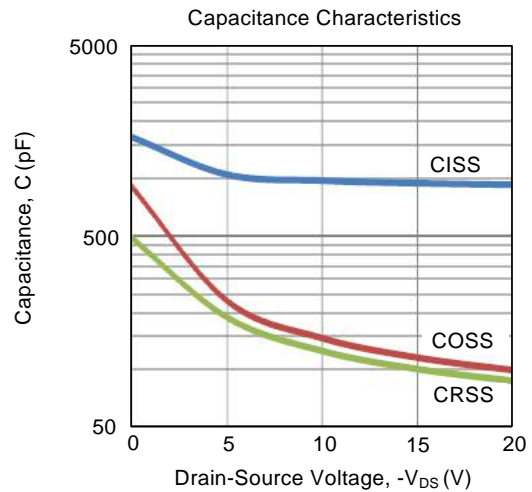
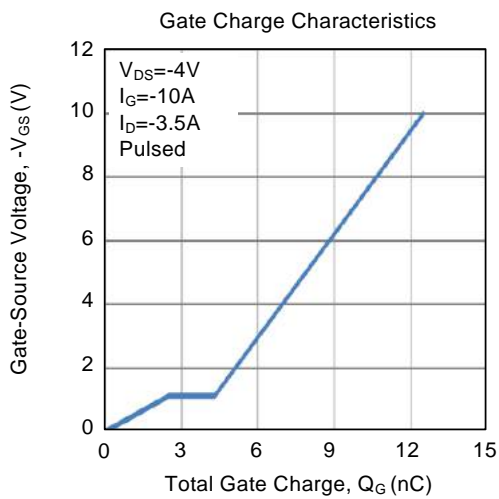
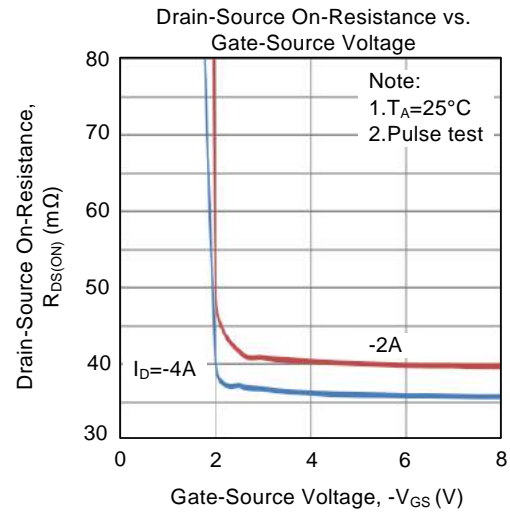
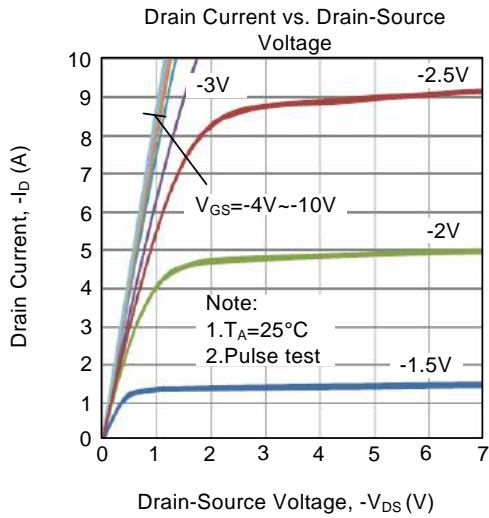
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Of characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=-250\mu A$	-20			V
Drain-Source Leakage Current	I_{DSS}	$V_{DS}=-20V, V_{GS}=0V$			-1	μA
Gate-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 8V, V_{DS}=0V$			± 100	nA
On characteristics						
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.45		-1.2	V
Drain-Source On-State Resistance (Note 2)	$R_{DS(ON)}$	$V_{GS}=-4.5V, I_D=-4.2A$		32	45	m Ω
		$V_{GS}=-2.5V, I_D=-3.4A$		45	55	m Ω
		$V_{GS}=-1.8V, I_D=-2.0A$				
Dynamic characteristics						
Input Capacitance	C_{ISS}	$V_{GS}=0V, V_{DS}=-20V, f=1MHz$		932		pF
Output Capacitance	C_{OSS}			100		pF
Reverse Transfer Capacitance	C_{RSS}			87		pF
Switching characteristics						
Total Gate Charge (Note 2)	Q_G	$V_{DS}=-4V, V_{GS}=-4.5V, I_D=-3.5A$		12.5		nC
Gate-Source Charge	Q_{GS}			2.5		nC
Gate-Drain Charge	Q_{GD}			1.8		nC
Turn-ON Delay Time (Note 2)	$t_{D(ON)}$	$V_{DS}=-4V, V_{GS}=-4.5V, I_D=-1A, R_G=6\Omega, R_D=4\Omega$		10		ns
Turn-ON Rise Time	t_R			39		ns
Turn-OFF Delay Time	$t_{D(OFF)}$			42		ns
Turn-OFF Fall Time	t_F			28		ns
Source-drain diode ratings and characteristics						
Maximum Continuous Drain-Source Diode Forward Current	I_S				-4.2	A
Maximum Pulsed Drain-Source Diode Forward Current	I_{SM}				-10	A
Drain-Source Diode Forward Voltage(Note2)	V_{SD}	$V_{GS}=0V, I_S=-1.2A$			-1.2	V

 Notes: 1. Pulse width limited by $T_{J(MAX)}$

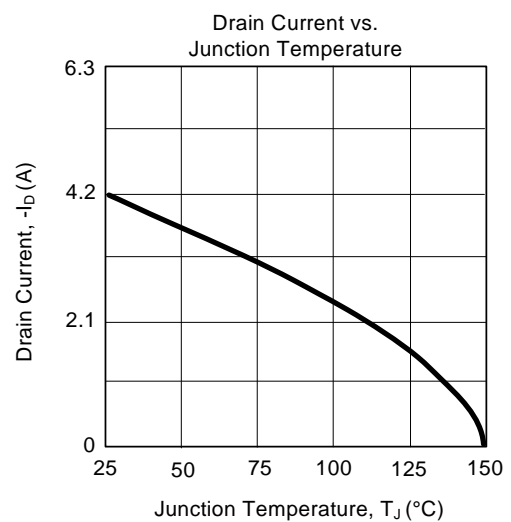
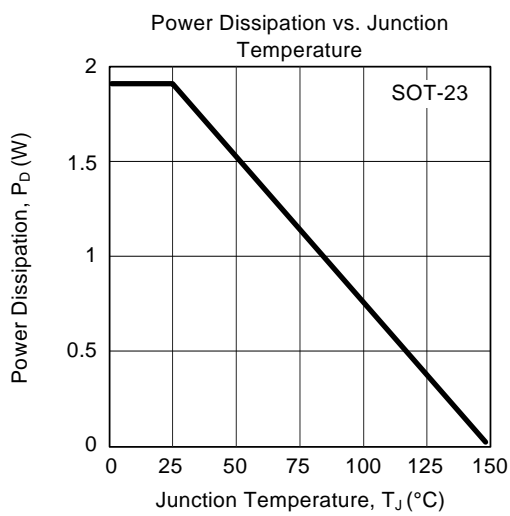
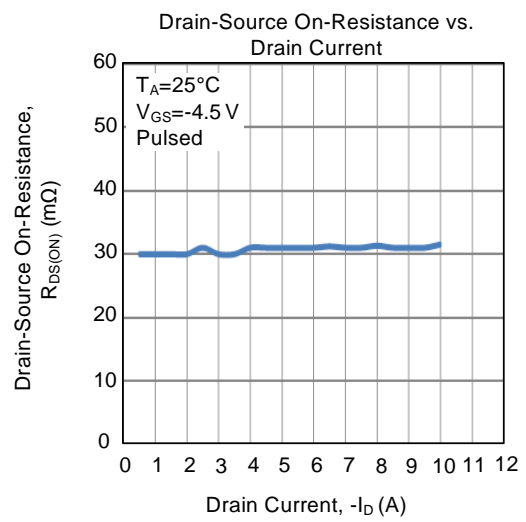
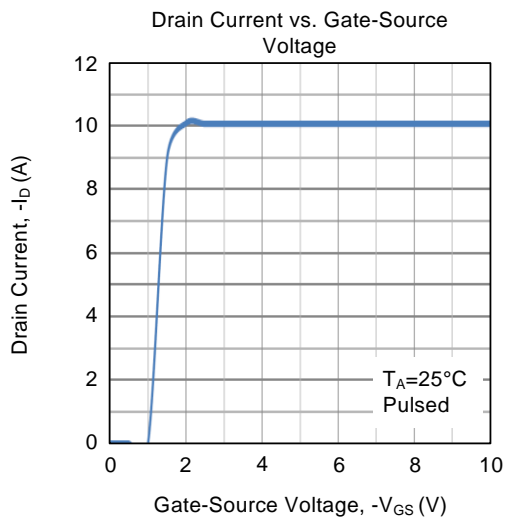
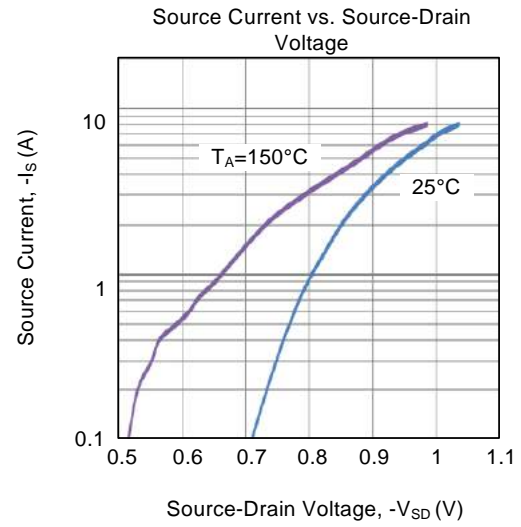
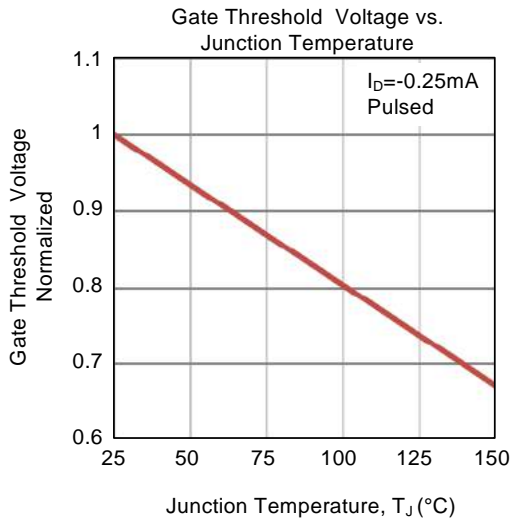
 2. Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.

 3. Surface mounted on 1 in² copper pad of FR4 board; 270°C/W when mounted on min.

■ TYPICAL CHARACTERISTICS

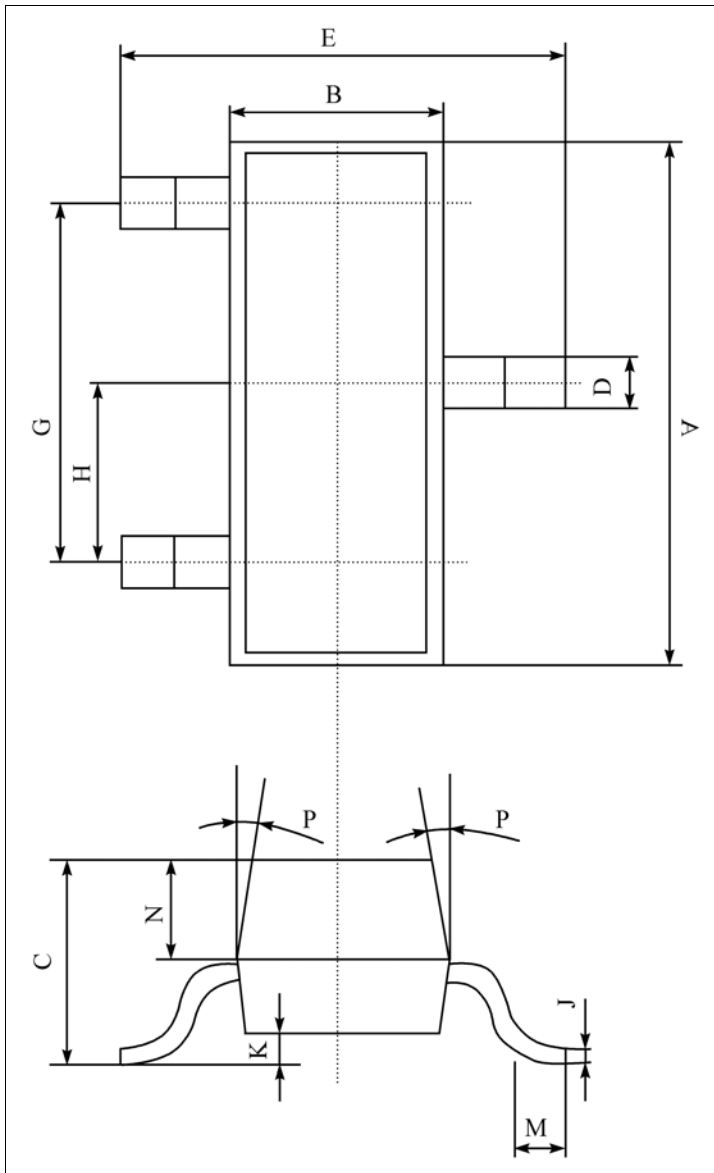


■ TYPICAL CHARACTERISTICS(Cont.)



■ SOT-23-3L PACKAGE OUTLINE DIMENSIONS

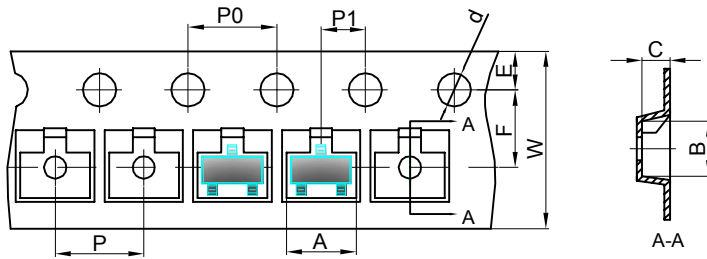
单位 (UNIT) : mm



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°

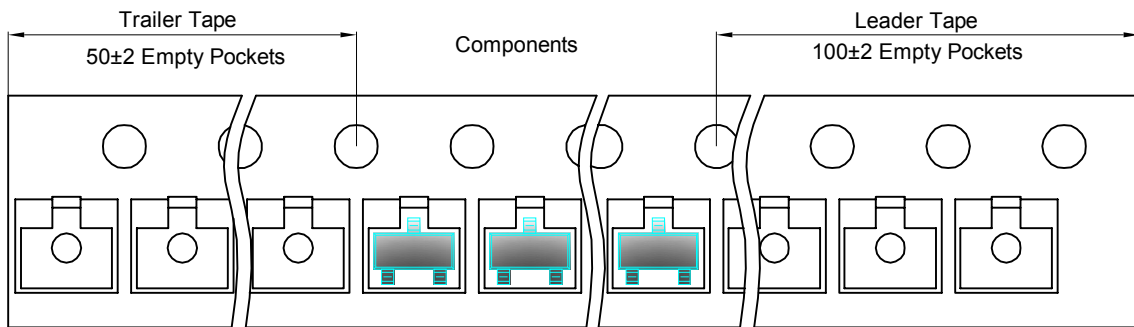
Packing
SOT-23 包装规格
SMD片式表面贴封装
包装方式: 载带卷盘包装
Tape & Reel, 3Kpcs/Reel
每卷数量3000只 (3Kpcs/Reel)
每盒数量45000只 (45Kpcs/BOX)
每箱数量180000只 (180Kpcs/Cartons)

■ SOT-23 Embossed Carrier Tape

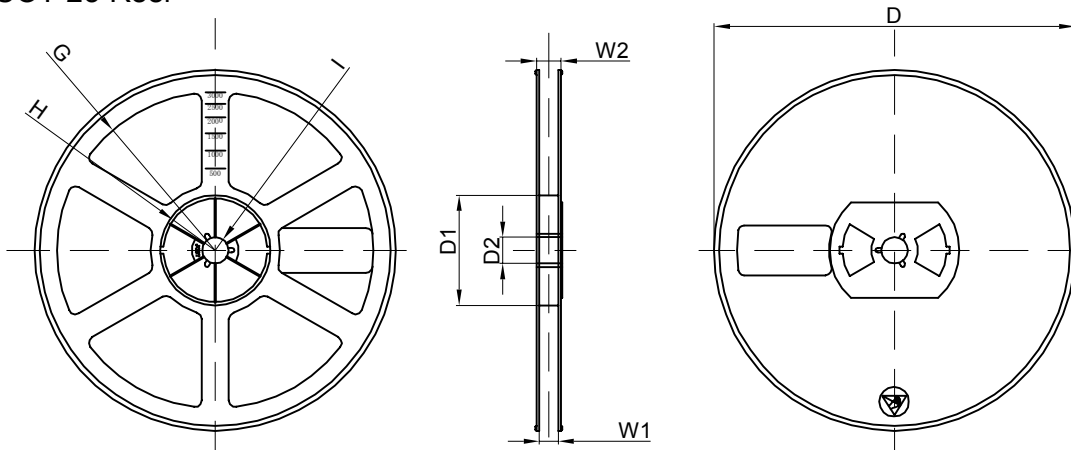


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

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	