

PRODUCT CHARACTERISTICS

VDSS	-15V
$R_{DS(on)Typ}(V_{GS}@=-4.5V)$	24m Ω
$R_{DS(on)Typ}(V_{GS}@=-2.5V)$	33m Ω
ID	-7.5A

APPLICATIONS

- Load switch for portable
- DC/DC converter

FEATURES

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

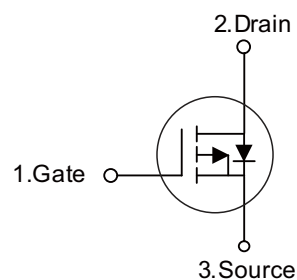
ORDER INFORMATION

Order codes		Package	Packing
Halogen-Free	Halogen		
N/A	MOT2327B2	SOT-23	3000pieces/Reel

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-15	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	-7.5	A
Pulsed Drain Current	I_{DM}	-30	A
Power Dissipation	P_D	1	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	125	$^{\circ}C/W$
Operation Junction and Storage Temperature Range	T_J, T_{stg}	-55~+150	$^{\circ}C$

Symbol



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

Parameter	Symbol	Condition	Min	Typ	Max	Units
Static characteristics						
Drain-source breakdown voltage	BV _{DSS}	V _{GS} = 0V, I _D =-250μA	-15	-	-	V
Zero gate voltage drain curre	I _{DSS}	V _{DS} =-15V,V _{GS} = 0V	-	-	-1	μA
Gate-source leakage current	I _{GSS}	V _{GS} =±12V, V _{DS} = 0V	-	-	±100	nA
Drain-source on-resistance	R _{DS(on)}	V _{GS} =-4.5V, I _D =-2A	-	24	34	mΩ
		V _{GS} =-2.5V, I _D =-1A	-	33	45	mΩ
Forward tranconductance	g _{FS}	V _{DS} =-5V, I _D =-3A	5.5	-	-	S
Gate threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-0.3	-0.65	-1.5	V
Diode forward voltage	V _{SD}	I _S =-1A,V _{GS} =0V	-	-	-1	V
Dynamic characteristics						
Input capacitance	C _{iss}	V _{DS} =-10V,V _{GS} =0V f =1MHz	-	830	-	pF
Output capacitance	C _{oss}		-	132	-	pF
Reverse transfer capacitance	C _{rss}		-	85	-	pF
Total Gate Charge	Q _g	V _{GS} =-4.5V, V _{DS} =-10V I _D = -7.5A	-	8.8	-	nC
Gate Source Charge	Q _{gs}		-	1.4	-	nC
Gate Drain("Miller") Charge	Q _{gd}		-	1.9	-	nC
Switching characteristics						
Turn-on delay time	t _{d(on)}	V _{GS} =-4.5V,V _{DS} =-10V, I _D = -7.5A ,R _{GEN} =1Ω	-	10	-	ns
Turn-on rise time	t _r		-	32	-	ns
Turn-off delay time	t _{d(off)}		-	50	-	ns
Turn-off fall time	t _f		-	51	-	ns
Drain-source diode characteristics						
Maximum Continuous Forward Voltage	I _s		-	-	-7.5	A
Maximum Pulsed Forward Voltage	I _{SM}		-	-	-30	A
Drain to Source Diode Forward Voltage	V _{SD}	V _{GS} = 0V, I _s =-1A	-	-	-1.2	V

■ TYPICAL CHARACTERISTICS

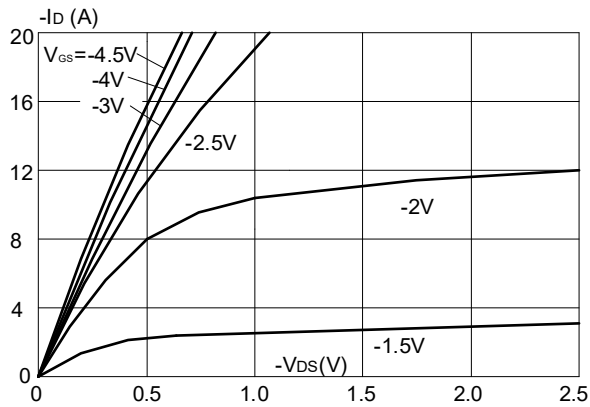


Figure 1: Output Characteristics

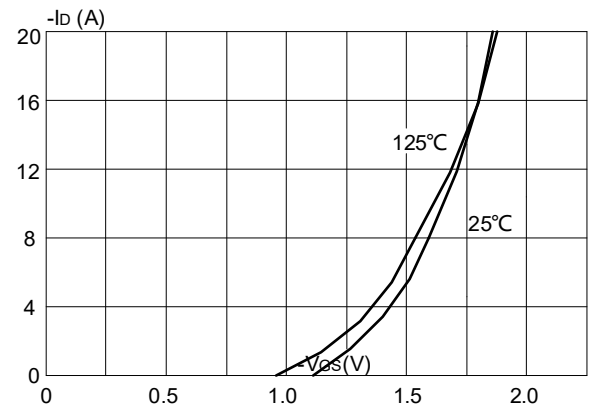


Figure 2: Typical Transfer Characteristics

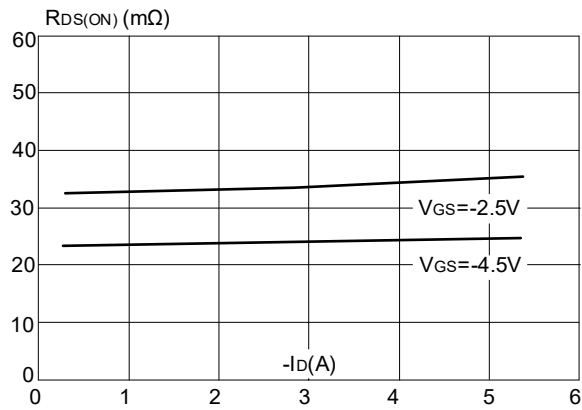


Figure 3: On-resistance vs. Drain Current

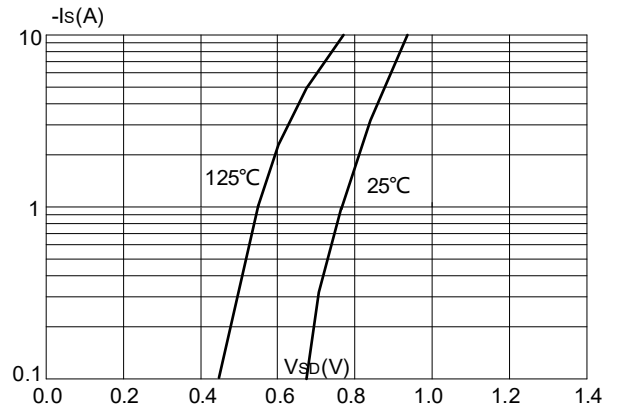


Figure 4: Body Diode Characteristics

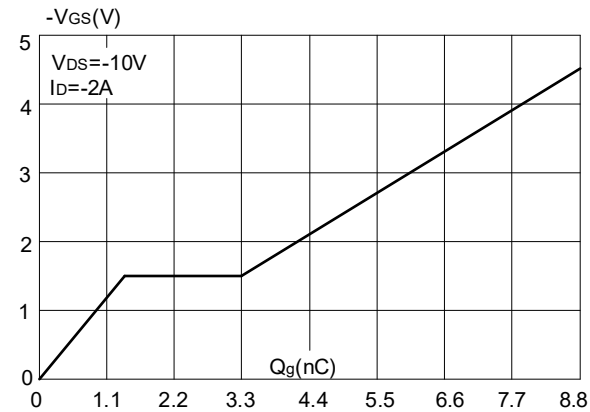


Figure 5: Gate Charge Characteristics

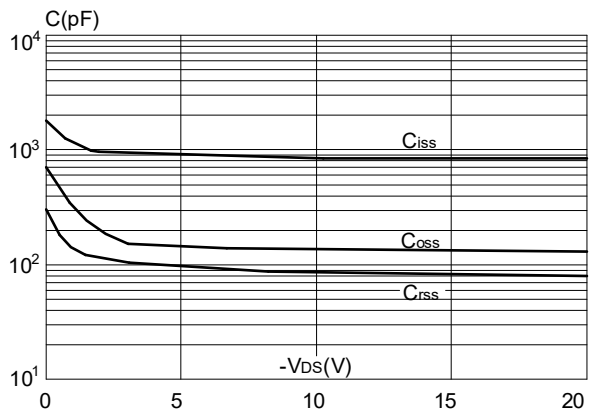


Figure 6: Capacitance Characteristics

■ TYPICAL CHARACTERISTICS(Cont.)

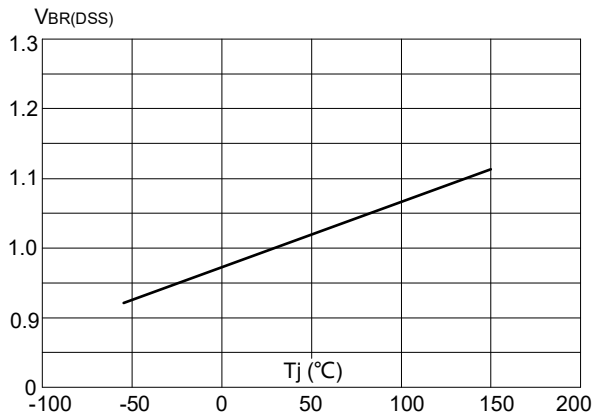


Figure 7: Normalized Breakdown Voltage vs. Junction Temperature

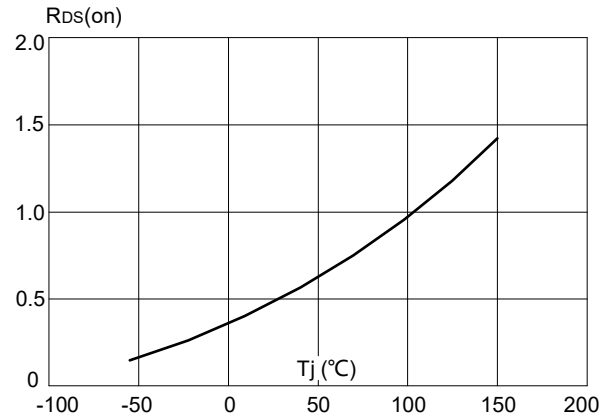


Figure 8: Normalized on Resistance vs. Junction Temperature

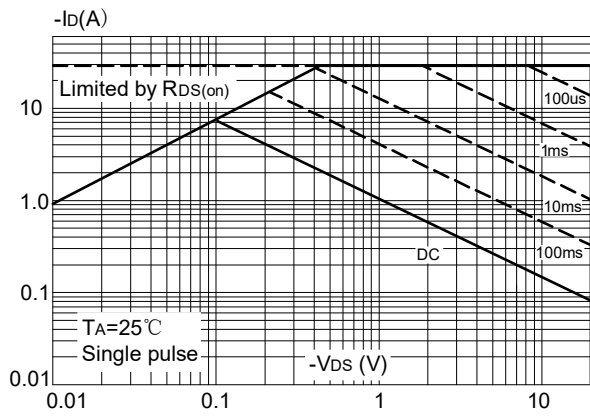


Figure 9: Maximum Safe Operating Area

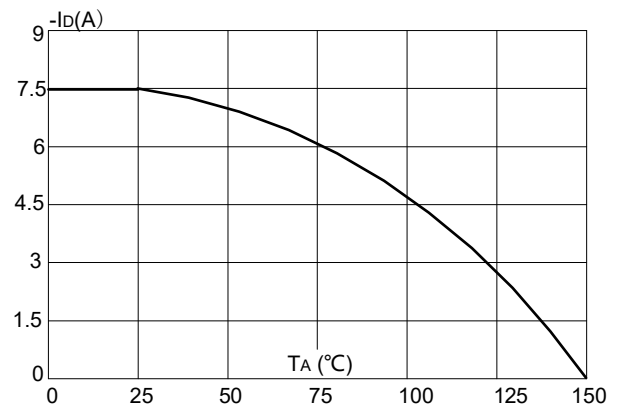
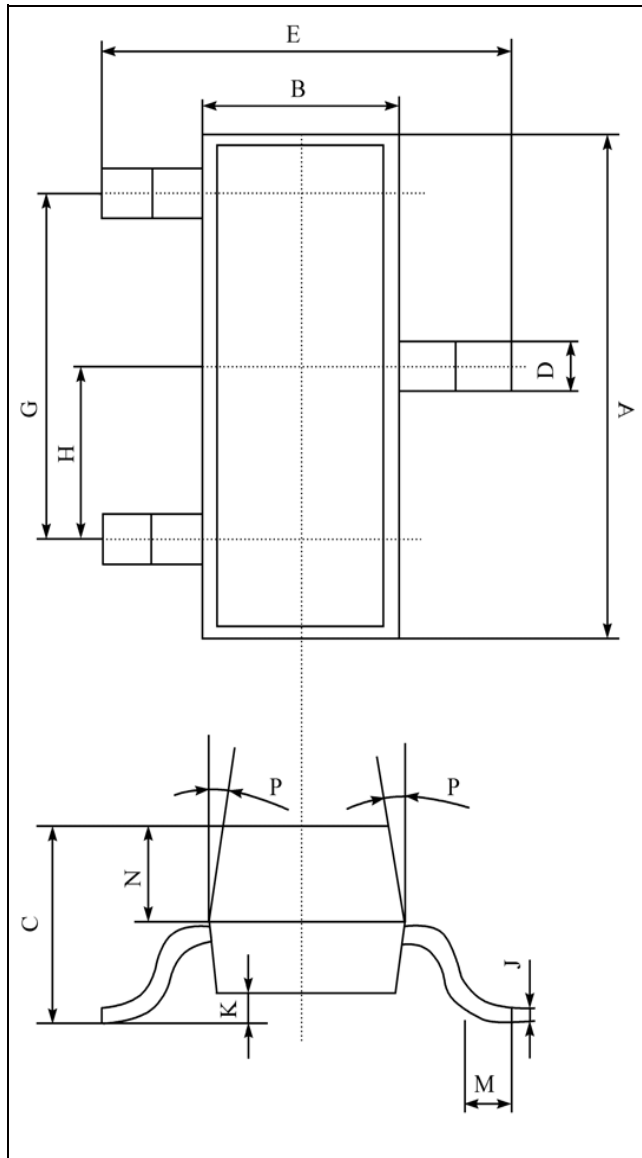


Figure 10: Maximum Continuous Drain Current vs. Ambient Temperature

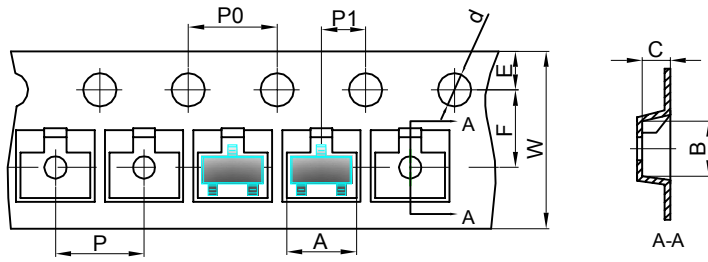
■ SOT-23 PACKAGE OUTLINE DIMENSIONS



单位 (UNIT) : mm

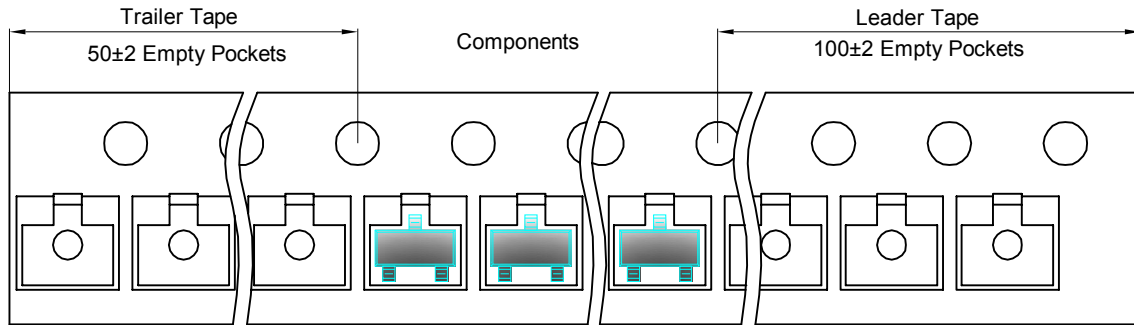
序号	数值及公差
A	2.90±0.10
B	1.30±0.10
C	1.00±0.10
D	0.40±0.10
E	2.40±0.20
G	1.90±0.10
H	0.95±0.05
J	0.13±0.05
K	0.00-0.10
M	≥0.20
N	0.60±0.10
P	7±2°
Packing SOT-23 包装规格 SMD片式表面贴封装 包装方式: 载带卷盘包装 Tape & Reel, 3Kpcs/Reel 每卷数量3000只 (3Kpcs/Reel) 每盒数量45000只 (45Kpcs/BOX) 每箱数量180000只 (180Kpcs/Cartons)	

SOT-23 Embossed Carrier Tape

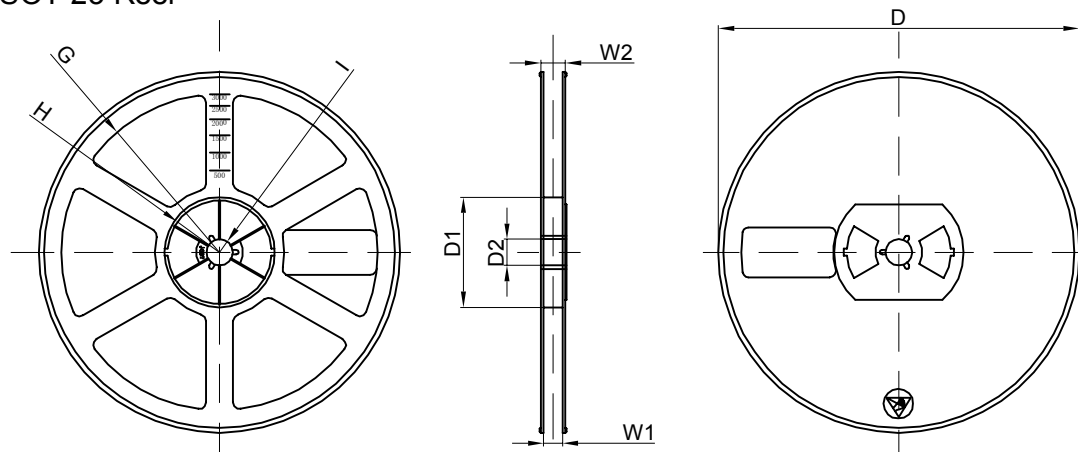


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

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	