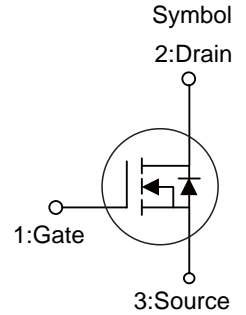


■ PRODUCT CHARACTERISTICS

$V_{DSS}$	100V
$R_{DS(ON)}$ Typ(@ $V_{GS}=10V$ )	207m $\Omega$
$R_{DS(ON)}$ Typ(@ $V_{GS}=4.5V$ )	220m $\Omega$
$I_D$	3A



■ APPLICATIONS

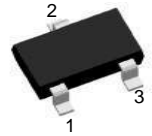
- \* High efficiency switch mode power supplies
- \* Electronic lamp ballasts based on half bridge
- \* LED power supplies

■ FEATURE

- \* High Switching Speed
- \* Improved dv/dt capability

■ ORDER INFORMATION

Order Codes		Package	Packing
Halogen-Free	Halogen		
N/A	MOT3N10B2	SOT-23	3000 pieces/Reel



SOT-23

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

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	$V_{DSS}$	100	V
Gate-Source Voltage	$V_{GSS}$	$\pm 20$	V
Drain Current Continuous(@ $V_{GS}=10V, T_A=25^{\circ}C$ )	$I_D$	3	A
Drain Current Pulsed	$I_{DM}$	12	A
Avalanche Energy *	$E_{AS}$	9	mJ
Power Dissipation	$P_D$	0.35	W
Junction Temperature	$T_J$	+150	$^{\circ}C$
Storage Temperature	$T_{STG}$	-55~ +150	$^{\circ}C$

■ THERMAL CHARACTERISTICS

Parameter	Symbol	Typ	Unit
Junction to Ambient	$R_{thJA}$	350	$^{\circ}C/W$

Note: \* EAS condition:  $T_J=25^{\circ}C, V_{DD}=20V, V_G=10V, L=0.5mH, R_g=25\Omega$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Off characteristics						
Drain to Source Breakdown Voltage	$V_{DSS}$	$V_{GS}=0V, I_D=250\mu A$	100	-	-	V
Drain to Source Leakage Current	$I_{DSS}$	$V_{DS}=100V, V_{GS}=0V$	-	-	1	$\mu A$
Gate to Source Forward Leakage	$I_{GSS(F)}$	$V_{DS}=0V, V_{GS}=+20V$	-	-	100	nA
Gate to Source Reverse Leakage	$I_{GSS(R)}$	$V_{DS}=0V, V_{GS}=-20V$	-	-	-100	nA
On characteristics						
Drain to Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=1.5A$	-	207	260	m $\Omega$
		$V_{GS}=4.5V, I_D=1A$	-	220	280	m $\Omega$
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1	1.5	2.5	V
Dynamic characteristics						
Forward Transconductance	$g_{fs}$	$V_{DS}=10V, I_D=1A$	2	-	-	S
Input Capacitance	$C_{iss}$	$V_{DS}=15V, V_{GS}=0V$ $f=1.0MHz$	-	380	-	pF
Output Capacitance	$C_{oss}$		-	16	-	pF
Reverse Transfer Capacitance	$C_{rss}$		-	14	-	pF
Resistive Switching Characteristics						
Turn-on Delay Time	$t_{d(ON)}$	$I_D=3A, V_{DS}=80V$ $R_G=25\Omega, V_{GS}=10V$	-	6	-	ns
Rise Time	$t_r$		-	15	-	ns
Turn-off Delay Time	$t_{d(OFF)}$		-	44	-	ns
Fall Time	$t_f$		-	25	-	ns
Total Gate Charge	$Q_g$	$I_D=3A, V_{DS}=80V$ $V_{GS}=10V$	-	18.2	-	nC
Gate to Source Charge	$Q_{gs}$		-	3	-	nC
Gate to Drain("Miller") Charge	$Q_{gd}$		-	4.1	-	nC
Source-Drain Diode Characteristics						
Continuous Source Current(Body Diode)	$I_S$		-	-	3	A
Maximum Pulsed Current(Body Diode)	$I_{SM}$		-	-	12	A
Diode Forward Voltage	$V_{SD}$	$I_{SD}=1A, V_{GS}=0V$	-	0.81	1.2	V
Reverse Recovery Time	$t_{rr}$	$I_{SD}=3A, T_J=25^\circ C$ $di/dt=100A/\mu s$	-	39	-	ns
Reverse Recovery Charge	$Q_{rr}$		-	40	-	nC

■ TYPICAL CHARACTERISTICS

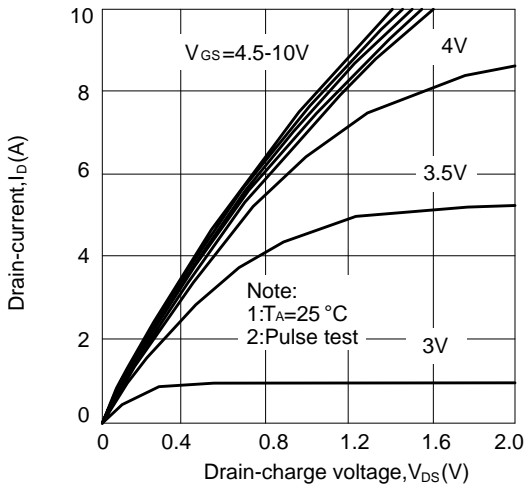


Figure 1: Drain current vs. drain-source voltage

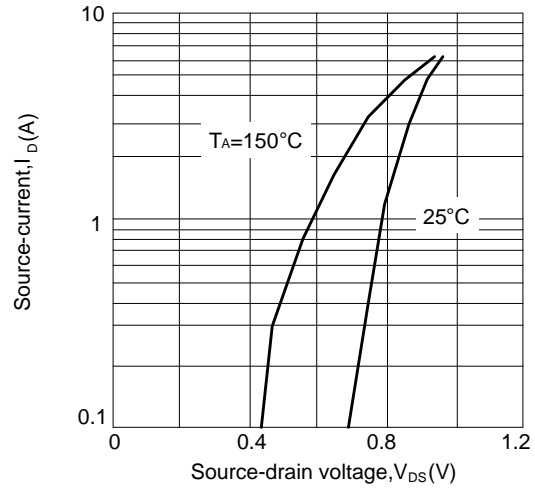


Figure 2: Source current vs. source-drain voltage

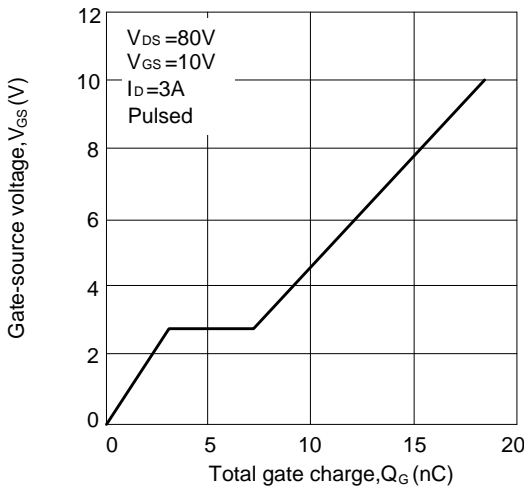


Figure 3: Gate charge characteristics

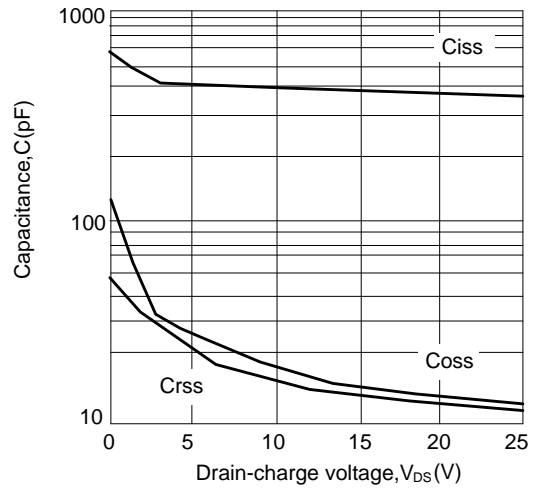


Figure 4: Capacitance characteristics

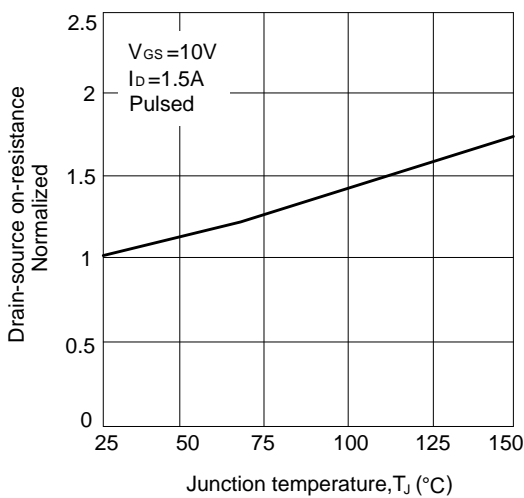


Figure 5: Drain-source on-resistance vs. junction temperature

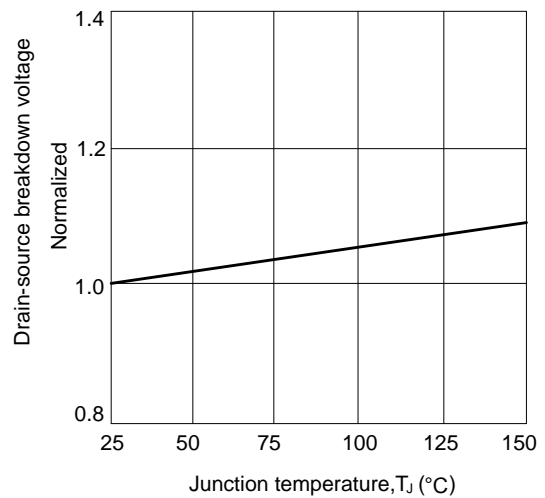


Figure 6: Breakdown voltage vs. junction temperature

■ TYPICAL CHARACTERISTICS(Cont.)

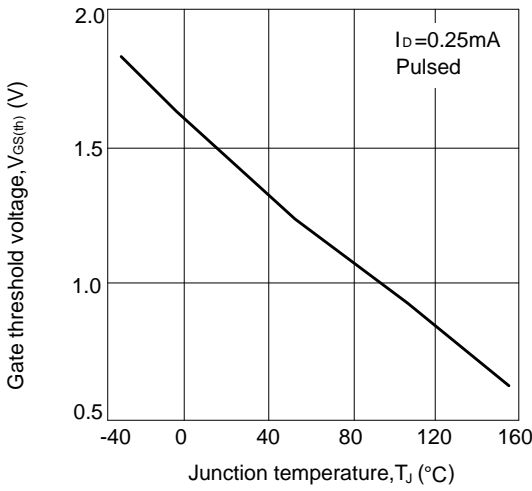


Figure 7: Gate threshold voltage vs junction temperature

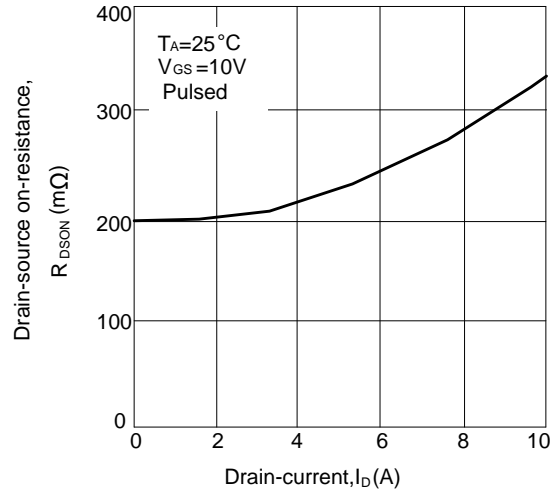


Figure 8: Drain-source on-resistance vs. drain-current

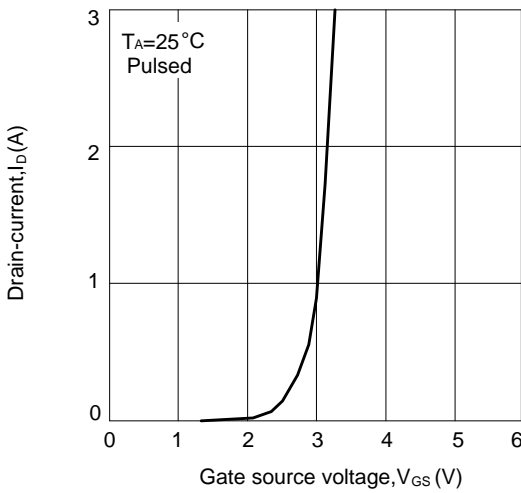


Figure 9: Drain-current vs. gate-source Voltage

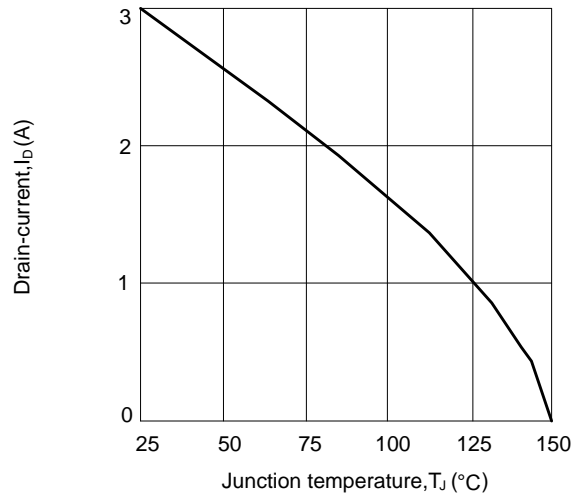


Figure 10: Drain current vs. junction temperature

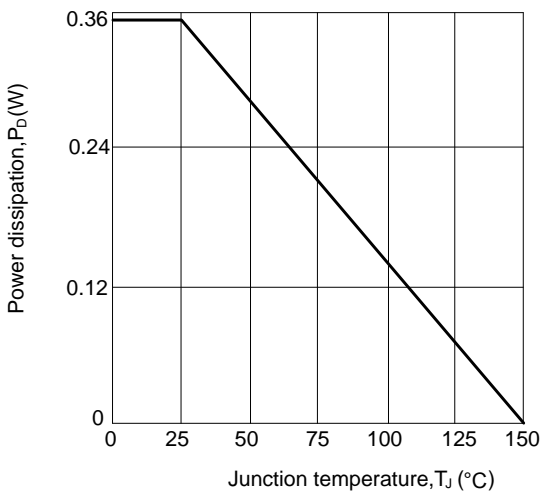


Figure 11: Power dissipation vs. junction temperature

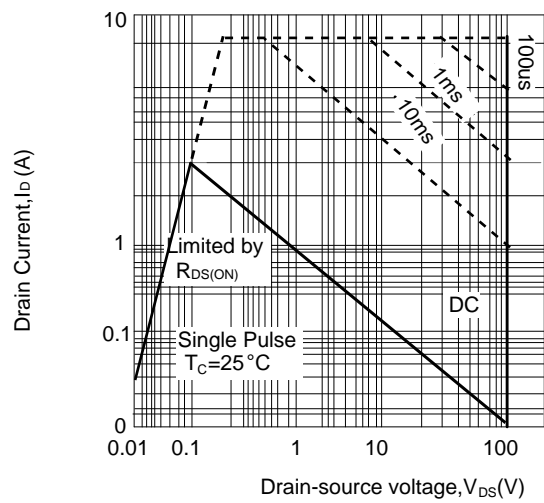
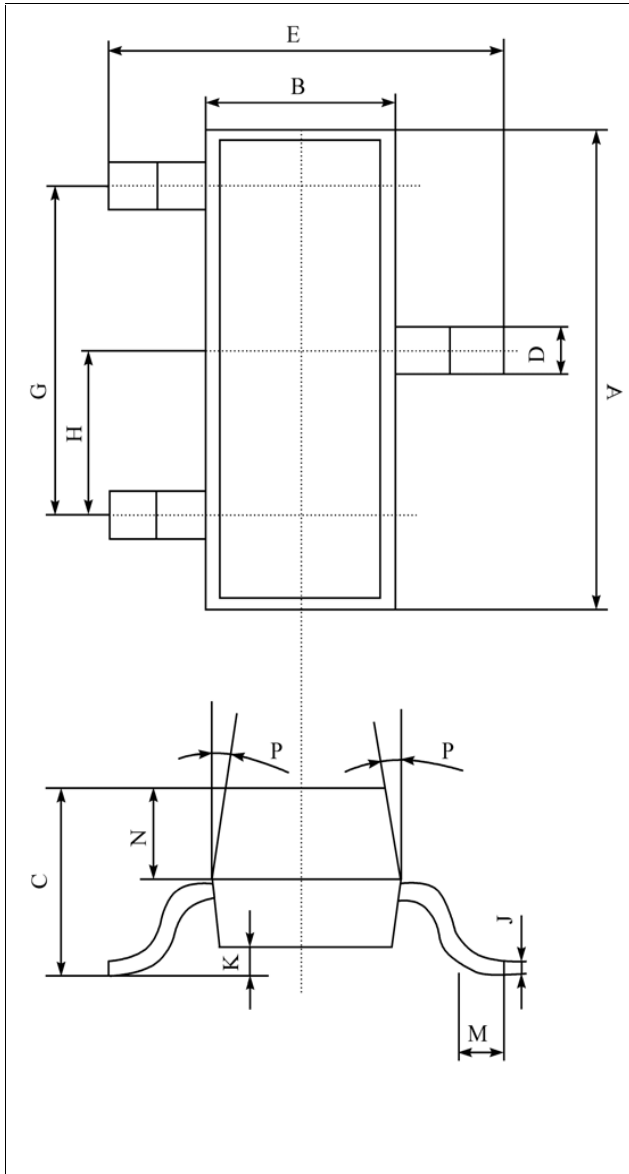


Figure 12: Safe operating area

**■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)