

PRODUCT CHARACTERISTICS

V_{DS}	-15V
$R_{DS(ON)}$ Typ(@ $V_{GS}=-4.5V$)	26m Ω
$R_{DS(ON)}$ Typ(@ $V_{GS}=-2.5V$)	33m Ω
I_D	-7.5A

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

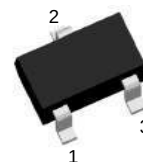
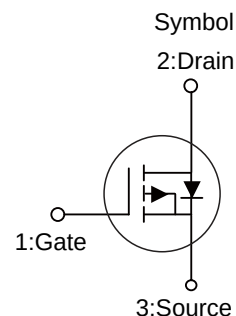
Order Codes		Package	Packing
Halogen-Free	Halogen		
N/A	MOT2327A3	SOT-23A-3L	3000 pieces/Reel

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

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	V_{DS}	-15	V
Gate-Source Voltage	V_{GS}	± 12	V
Drain Current Continuous(@ $V_{GS}=10V, T_A=25^{\circ}C$)	I_D	-7.5	A
Drain Current Pulsed	I_{DM}	-30	A
Power Dissipation	P_D	1	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}	125	$^{\circ}C/W$



SOT-23



■ 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 =-250μA	-15	-	-	V
Drain to Source Leakage Current	I _{DSS}	V _{DS} =-15V,V _{GS} =0V	-	-	-1	μA
Gate to Source Forward Leakage	I _{GSS(F)}	V _{GS} =+12V,V _{DS} =0V	-	-	100	nA
Gate to Source Reverse Leakage	I _{GSS(R)}	V _{GS} =-12V ,V _{DS} =0V	-	-	-100	nA
On characteristics						
Drain to Source On-Resistance	R _{DS(ON)}	V _{GS} =-4.5V,I _D =-2 A	-	26	34	mΩ
		V _{GS} =-2.5V,I _D =-1 A	-	33	45	mΩ
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} =V _{GS} ,I _D =-250μA	-0.3	-0.65	-1.5	V
Dynamic characteristics						
Input Capacitance	C _{iss}	V _{DS} =-10V,V _{GS} =0V f=1.0MHz	-	830	-	pF
Output Capacitance	C _{oss}		-	132	-	pF
Reverse Transfer Capacitance	C _{rss}		-	85	-	pF
Resistive Switching Characteristics						
Turn-on Delay Time	t _{d(ON)}	V _{GS} =-4.5V,V _{DS} =-10V, I _D =-7.5A,R _G =1Ω	-	10	-	ns
Rise Time	t _r		-	32	-	ns
Turn-off Delay Time	t _{d(OFF)}		-	50	-	ns
Fall Time	t _f		-	51	-	ns
Total Gate Charge	Q _g	I _D =-7.5 A, V _{DS} =-10V V _{GS} =-4.5V	-	8.8	-	nC
Gate to Source Charge	Q _{gs}		-	1.4	-	nC
Gate to Drain("Miller") Charge	Q _{gd}		-	1.9	-	nC
Source-Drain Diode Characteristics						
Continuous Source Current(Body Diode)	I _s		-	-	-7.5	A
Maximum Pulsed Current(Body Diode)	I _{SM}		-	-	-36	A
Diode Forward Voltage	V _{SD}	I _{SD} =-1A, V _{GS} =0V	-	-	-1.2	V

■ TYPICAL CHARACTERISTICS

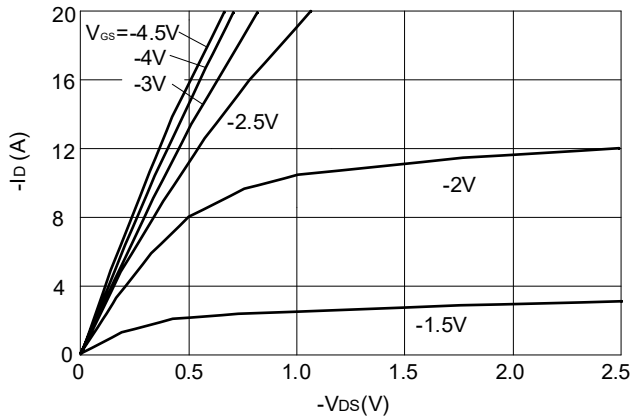


Figure 1: Output Characteristics

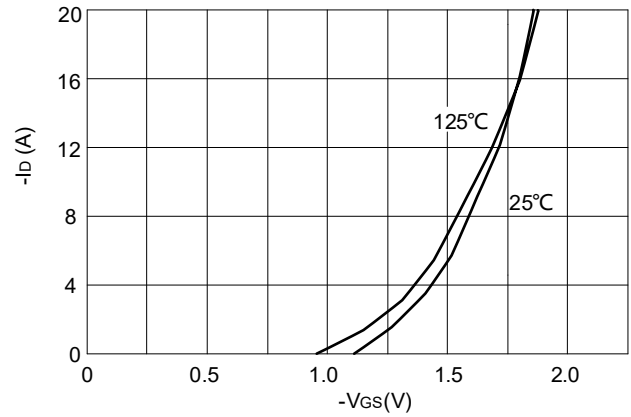


Figure 2: Typical Transfer Characteristics

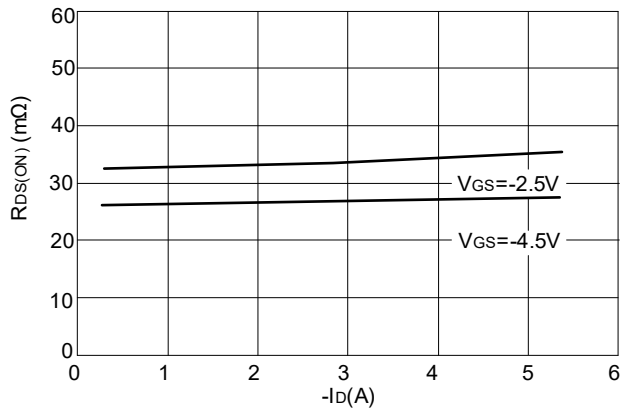


Figure 3: On-resistance vs. Drain Current

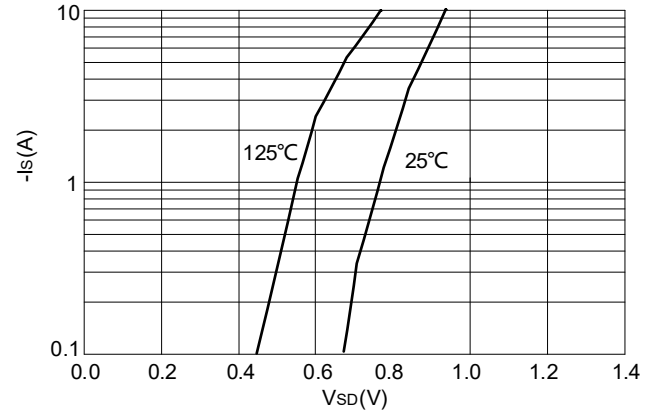


Figure 4: Body Diode Characteristics

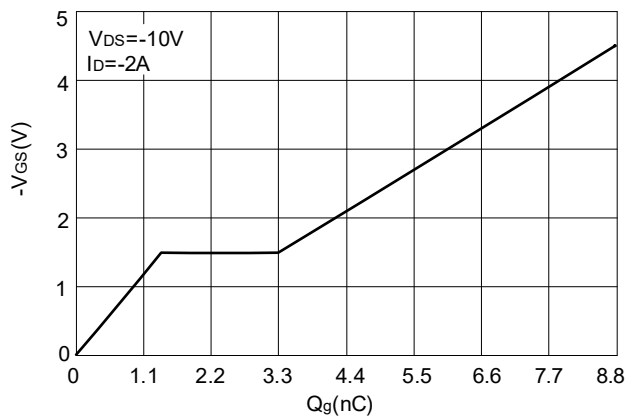


Figure 5: Gate Charge Characteristics

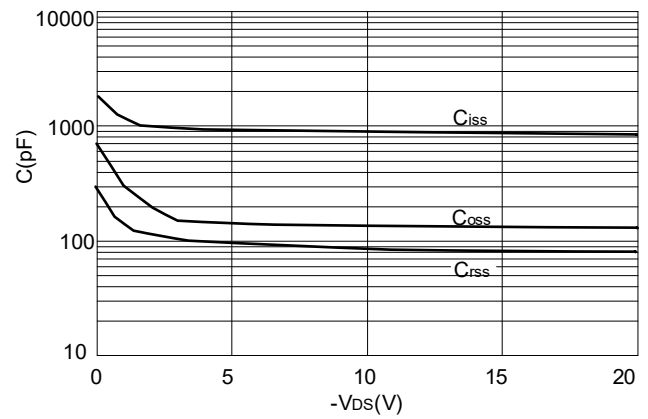


Figure 6: Capacitance Characteristics

■ TYPICAL CHARACTERISTICS(Cont.)

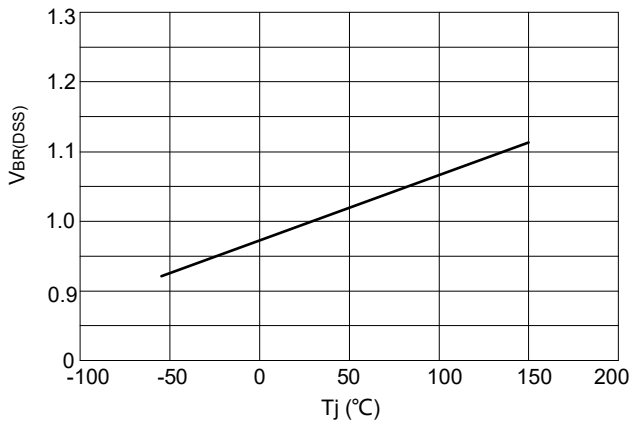


Figure 7: Normalized Breakdown Voltage vs. Junction Temperature

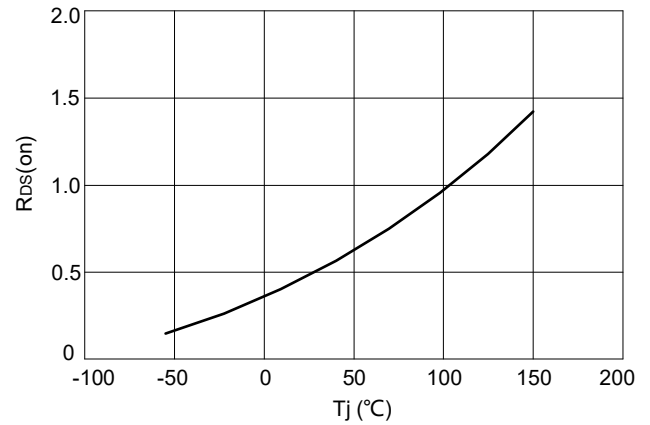


Figure 8: Normalized on Resistance vs. Junction Temperature

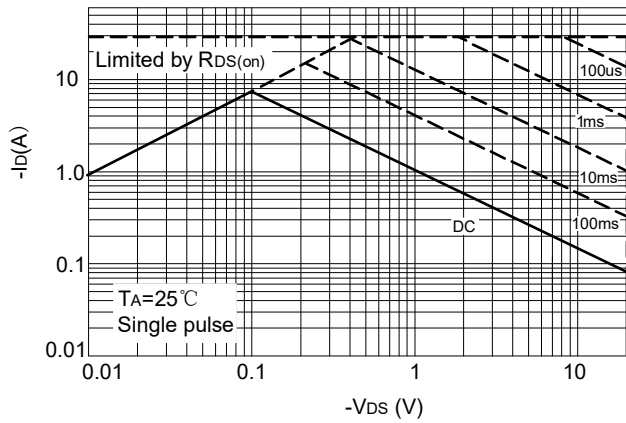


Figure 9: Maximum Safe Operating Area

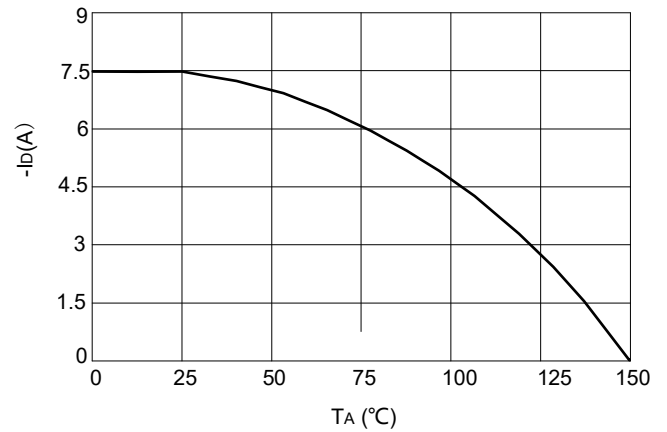


Figure 10: Maximum Continuous Drain Current vs. Ambient Temperature

■ SOT-23A-3L PACKAGE OUTLINE DIMENSIONS

