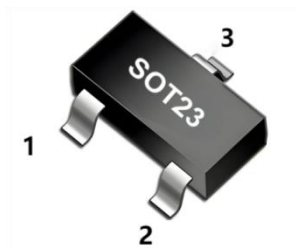


5.8A, 30V N-CHANNEL ENHANCEMENT MODE POWER MOSFET

DESCRIPTION

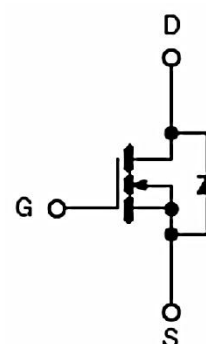
The AO3400A is an N-ch enhancement MOSFET providing the customers with perfect $R_{DS(ON)}$ and low gate charge. This device can be operated with 2.5V low gate voltage. The HY3400 is optimized for applications, such as a load switch or in PWM.

The AO3400A meet the ROHS and Green Product requirement with full function reliability approved.



1. GATE
2. SOURCE
3. DRAIN

Equivalent Circuit



FEATURE

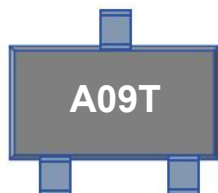
- *High dense cell design for extremely low $R_{DS(ON)}$
- *Exceptional on-resistance and maximum DC current capability

APPLICATION

- * Load/Power Switching
- * Interfacing Switching

MARKING

Type Code: Marking: A09T



ABSOLUTE MAXIMUM RATINGS(TA=25°C, unless otherwise specified.)

SYMBOL	PARAMETER	VALUE	UNIT
VDS	Drain-Source Voltage	30	V
VGS	Gate Source Voltage	±12	V
ID	Continuous Drain Current	5.8	A
IDM	Pulsed Drain Current(note)	20	A
PD	Power Dissipation(Note)	1	W
TJ	Junction Temperature	150	°C
TSTG	Storage Temperature	-55~150	°C
RθJA	Thermal Resistance From Junction To Ambient(Note)	125	°C/W

Notes: 1: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

AO3400A-5.8A

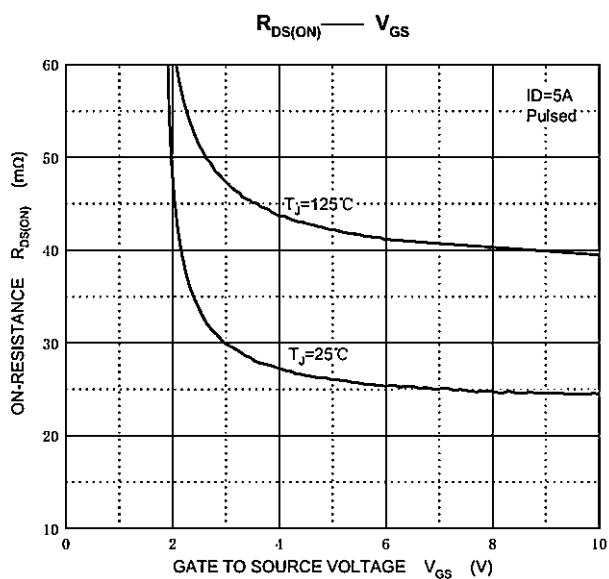
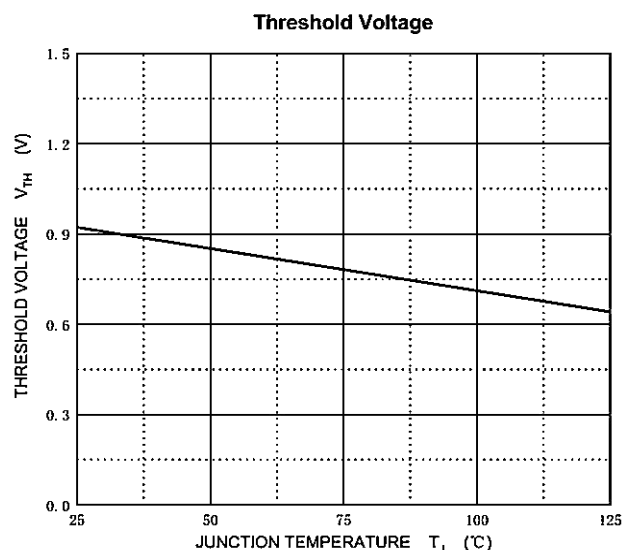
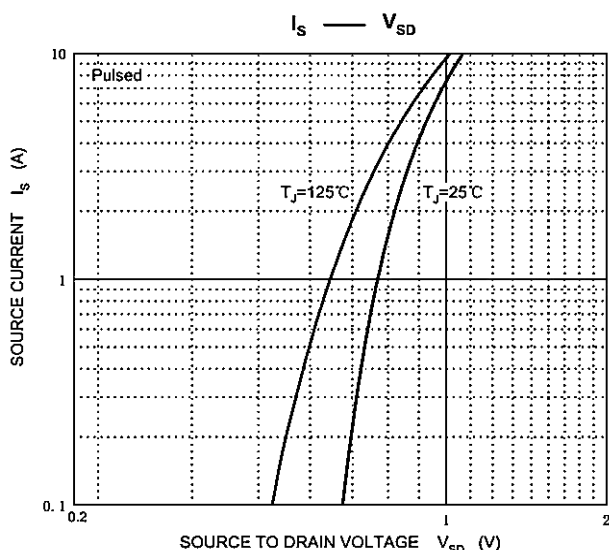
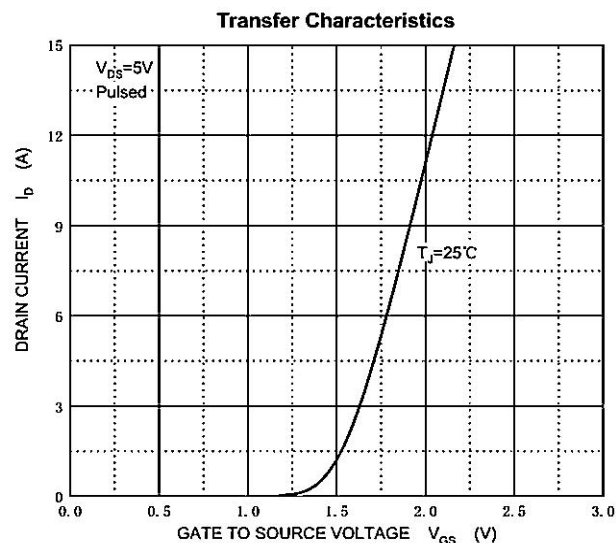
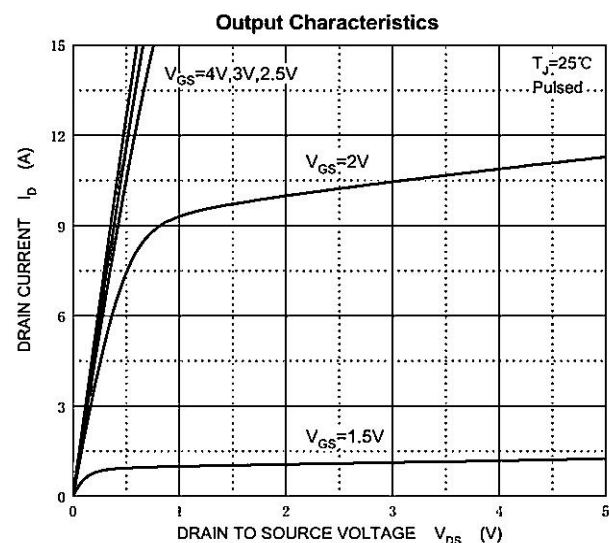
N-CHANNEL MOSFET

■ ELECTRICAL CHARACTERISTICS (TA=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250μA	30			V
Gate-Source Leakage Current	I _{GSS}	V _{GS} =±12V, V _{DS} =0V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V, V _{GS} =0V,T _J =25°C			100	nA
ON CHARACTERISTICS						
Drain-source on-state resistance(Note 2)	R _{DS(ON)}	V _{GS} =10V, I _D =1.0A		21	28	mΩ
		V _{GS} =4.5V, I _D =5.0A	15	22	28	
		V _{GS} =2.5V,I _D =2.0A		27	40	
Gate Threshold Voltage	V _{GS(TH)}	V _{GS} =V _{DS} ,I _D =250μA	0.6	0.9	1.5	V
Forward tranconductance	g _{FS}	V _{DS} =5V, I _D =5A	8			S
DYNAMIC CHARACTERISTICS(Note 3)						
Gate resistance	R _g	V _{DS} =0V,V _{GS} =0V,f =1MHz		3.6		Ω
Input Capacitance	C _{ISS}	V _{GS} =0V,V _{DS} =15V,f=1MHz		820	1050	pF
Output Capacitance	C _{OSS}			99		
Reverse Transfer Capacitance	C _{RSS}			77		
SWICHING CHARACTERISTICS(Note 3)						
Turn-On Delay Time	td(on)	V _{DS} =15V, R _L =2.7Ω, V _{GS} =10V,R _{GEN} =3Ω		3.3	5	ns
Rise Time	tr			4.8	7	
Turn-Off Delay Time	td(off)			26	40	
Fall Time	tf			4	6	
Total Gate Charge	Q _g	V _{DS} =10V,I _D =5A, V _{GS} =6V		9.5		nC
Gate-Source Charge	Q _{gs}			1.5		
Gate-Drain Charge	Q _{gd}			3		
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
Diode forward voltage (note 2)	V _{SD}	I _S =1A,V _{GS} =0V			1.2	V
Continuous drain-source diode forward current	I _S				5	A
Pulsed drain-source diode forward current	I _{SM}				10	A

- Notes:
1. Pulse Test : Pulse Width ≤ 300μs, Duty Cycle ≤ 2 %.
 2. Guaranteed by design, not subject to producing testing.
 3. Guaranteed by design, not subject to production testing.
 4. Device mounted on 1 in2 FR-4 board with 2oz.double-sided Copper, in a still air environment with TA=25°C.

TYPICAL CHARACTERISTICS

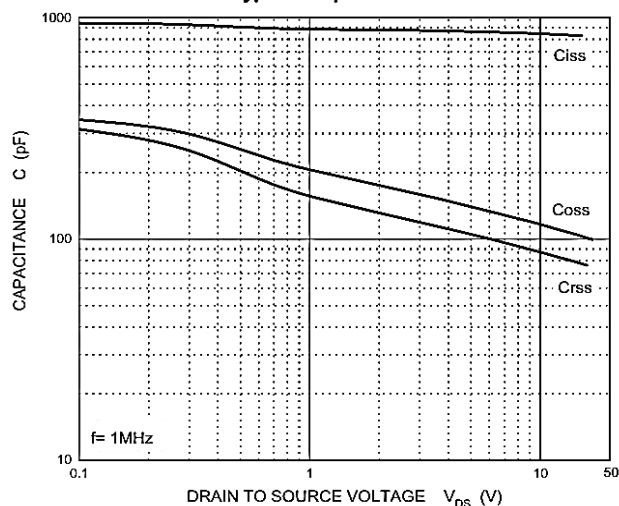


AO3400A-5.8A

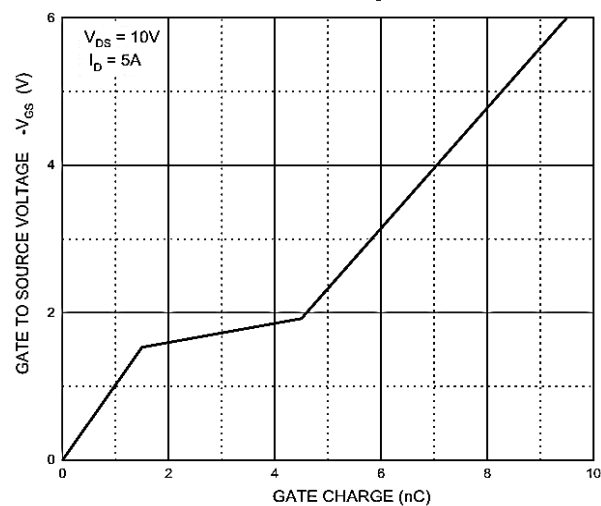
N-CHANNEL MOSFET

TYPICAL CHARACTERISTICS

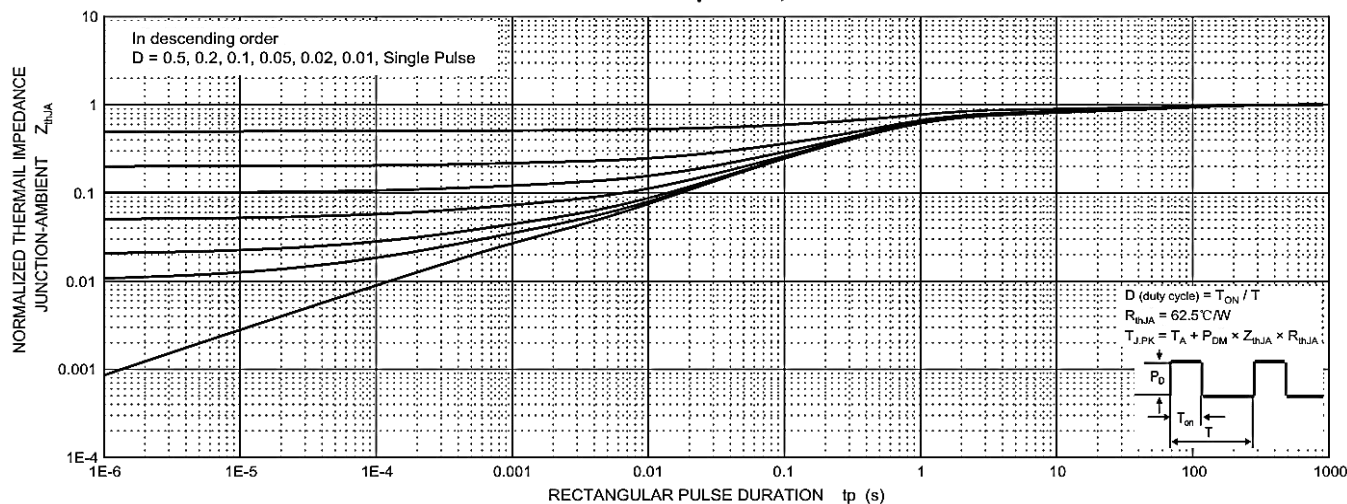
Typical Capacitances



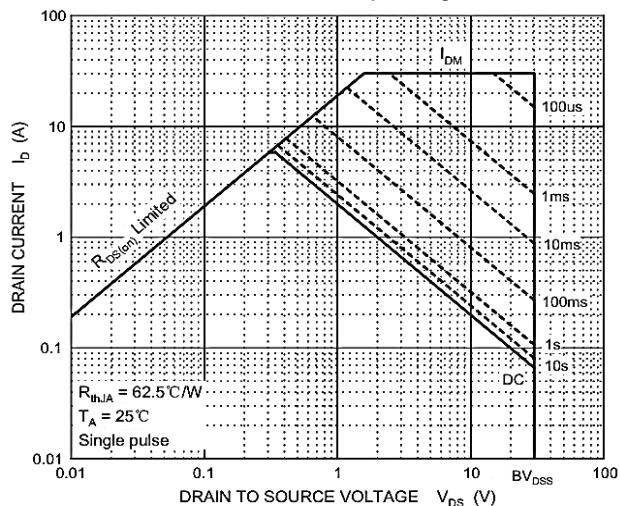
Gate Charge



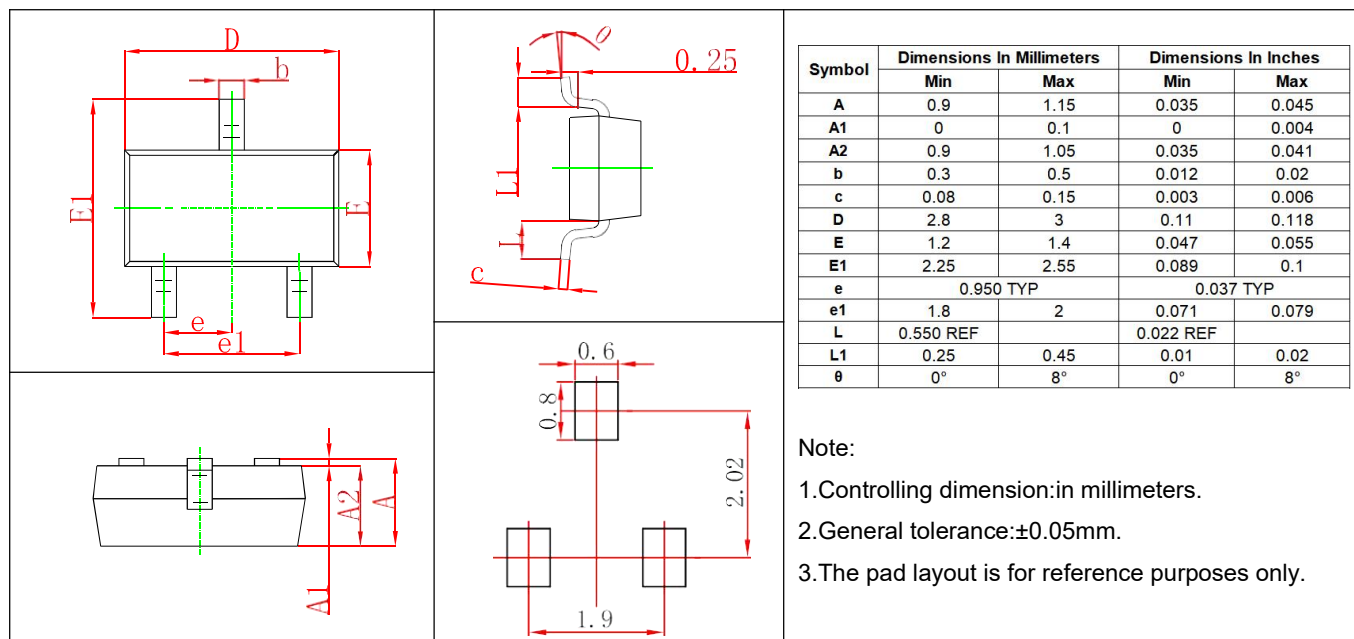
Transient Thermal Impedance, Junction-Ambient



Maximum Safe Operating Area



■ SOT23 PACKAGE OUTLINE DIMENSIONS



■ REEL PACKING

