

Product Summary

- V_{DS} 30V
- I_D 5.8A
- $R_{DS(ON)}$ (at $V_{GS}=10V$) $<23m\Omega$
- 100% EAS Tested
- 100% ∇V_{DS} Tested



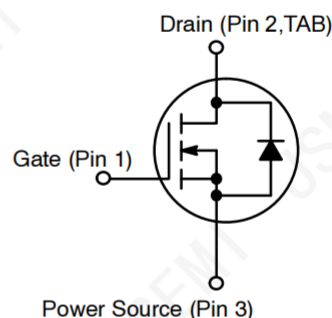
SOT-23-3L

General Description

- Trench Power MOSFET technology
- Excellent package for heat dissipation
- High density cell design for low $R_{DS(ON)}$
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free

Applications

- Power switching application
- Uninterruptible power supply
- DC-DC convertor
- Motor drivers



Absolute Maximum Ratings($T_A=25^{\circ}C$ Unless otherwise noted)

Symbol	Parameter		Typical	Unit
V _{DSS}	Drain-Source Voltage		30	V
V _{GSS}	Gate-Source Voltage		±12	V
I _D	Continuous Drain Current (T _C =25℃)	V _{GS} =10V	5.8	A
	Continuous Drain Current (T _C =70℃)		5.0	
I _{DM}	Pulsed Drain Current		20	A
I _S	Continuous Source Current (Diode Conduction)		1.7	A
P _D	Power Dissipation	T _A =25℃	1.5	W
		T _A =70℃	0.9	
T _J	Operation Junction Temperature		150	℃
T _{STG}	Storage Temperature Range		-55~+150	℃
R _{θJA}	Thermal Resistance Junction to Ambient		90	℃/W

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

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

Ordering Information

Order number	Package	Marking	Operation Temperature Range	MSL Grade	Ship, Quantity	Green
AO3400A	SOT-23-3L	XORB	$-55\sim+150^{\circ}C$	1	T&R,3000	Rohs

Electrical Characteristics($T_A=25^{\circ}\text{C}$ Unless otherwise noted)

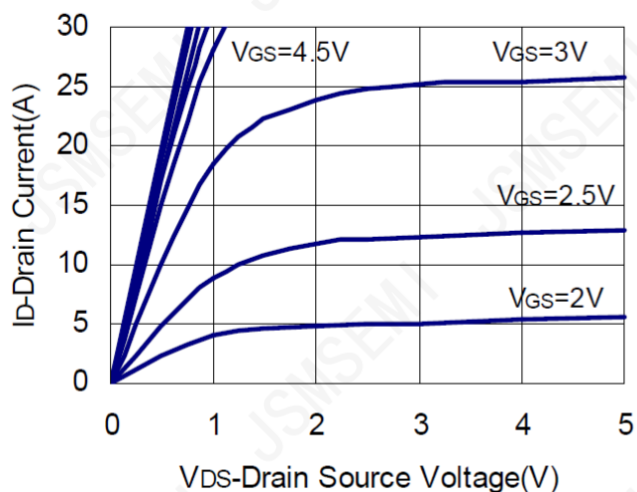
Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Parameters						
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250uA	30			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250uA	0.6		1.2	V
I _{GSS}	Gate Leakage Current	V _{DS} =0V, V _{GS} =±12V			±100	nA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =24V, V _{GS} =0			1	uA
		V _{DS} =24V, V _{GS} =0 T _J =55℃			5	
R _{DS(ON)}	Drain-Source On-Resistance	V _{GS} =10V, I _D =5.8A		20	23	mΩ
		V _{GS} =4.5V, I _D =5.0A		28	32	
		V _{GS} =2.5V, I _D =3.5A		30	38	
Source-Drain Diode						
V _{SD}	Diode Forward Voltage	I _S =1.0A, V _{GS} =0V		0.7	1.0	V
Dynamic Parameters						
Q _g	Total Gate Charge	V _{DS} =20V V _{GS} =4.5V I _D =5.8A		10	19	nC
Q _{gs}	Gate-Source Charge			1.7		
Q _{gd}	Gate-Drain Charge			3.2		
C _{iss}	Input Capacitance	V _{DS} =15V V _{GS} =0V f=1MHz		455		pF
C _{oss}	Output Capacitance			243		
C _{rss}	Reverse Transfer Capacitance			40		
T _{d(on)}	Turn-On Time	V _{DS} =15V I _D =4A		7	15	nS
T _r				10	20	
T _{d(off)}	Turn-Off Time	V _{GEN} =10V R _G =3.3Ω		20	40	
T _f				11	20	

 Note: 1. Pulse test: pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$

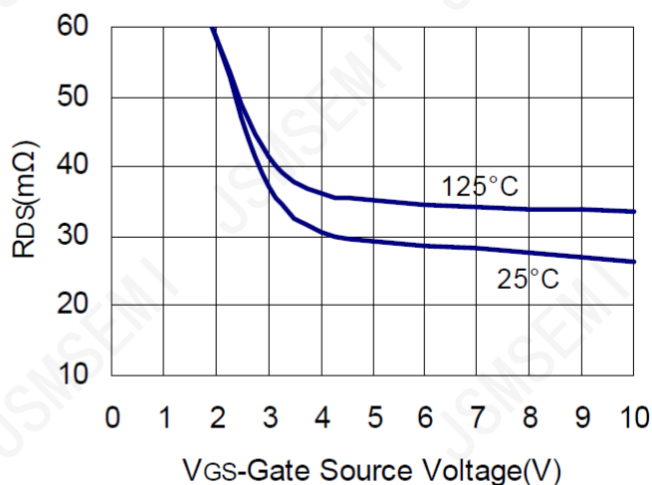
2. Static parameters are based on package level with recommended wire bonding

Typical Characteristics(25°C=Unless Note)

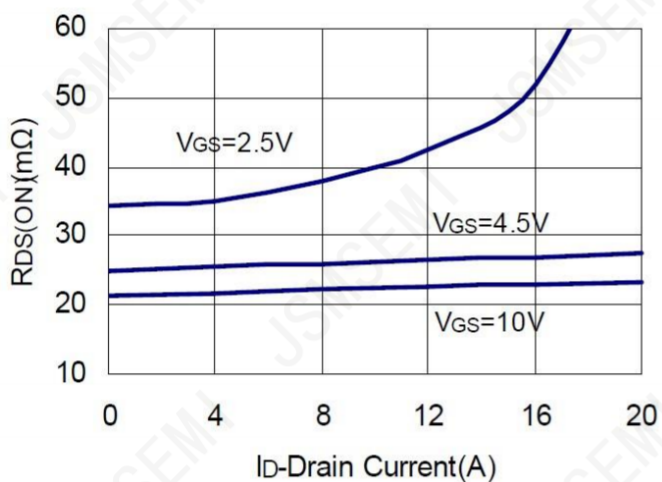
Output Characteristics



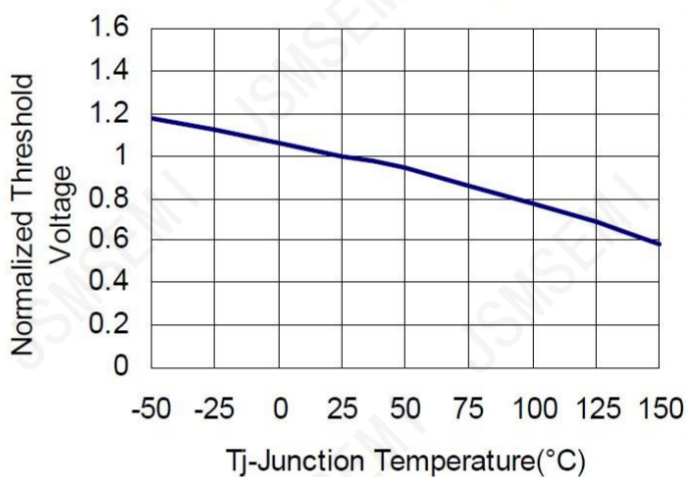
Drain-Source On Resistance



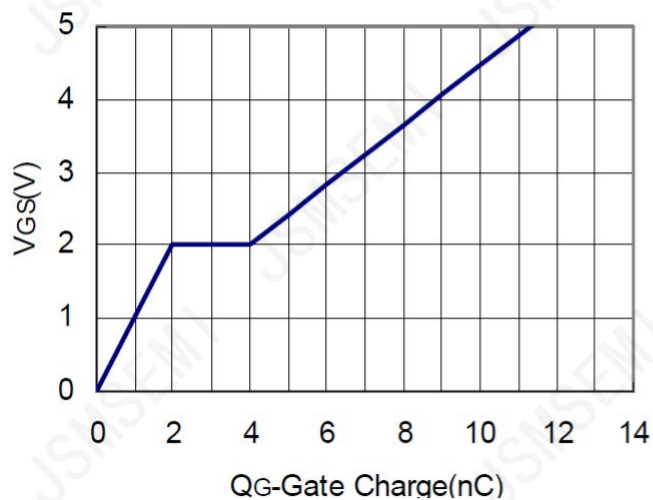
Drain Source On Resistance



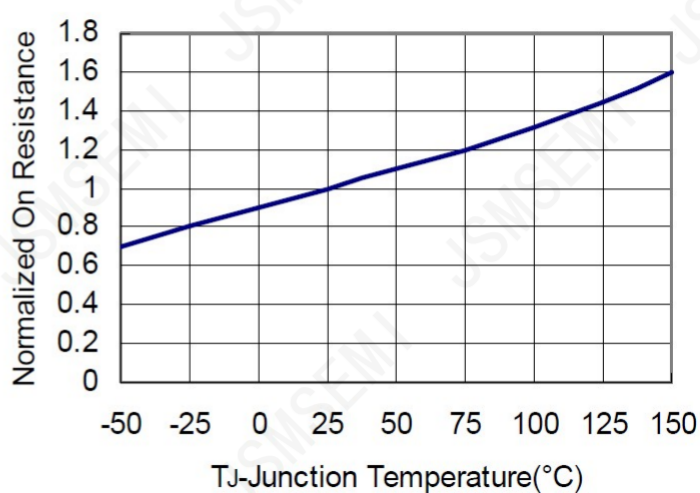
Gate Threshold Voltage



Gate Charge

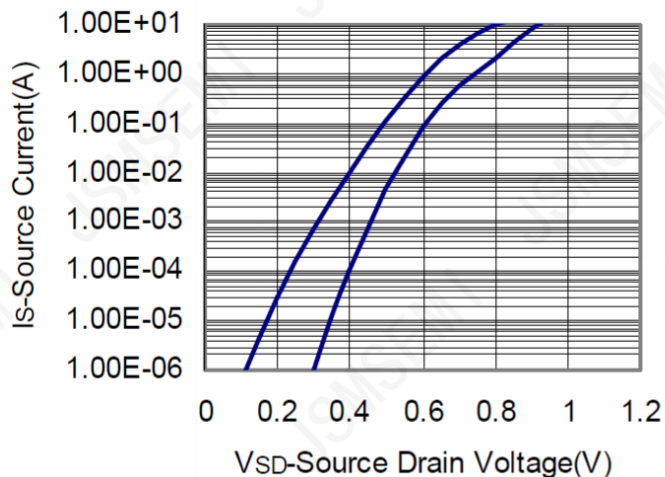


Drain Source On Resistance

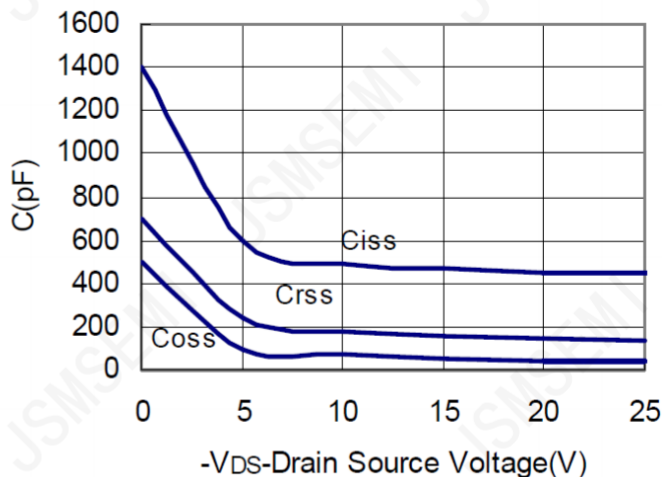


Typical Characteristics

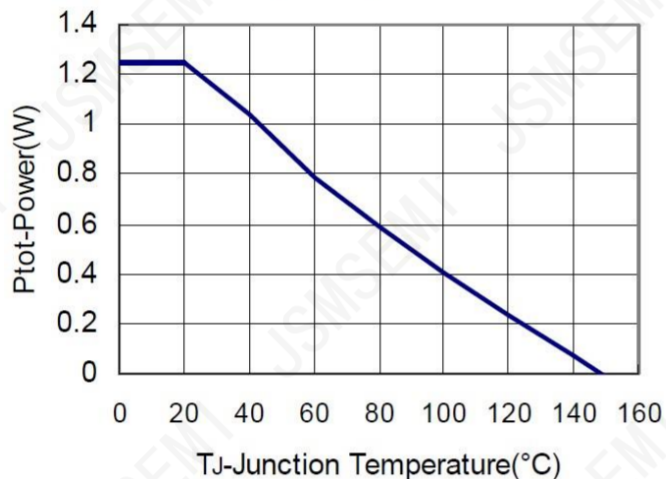
Source Drain Diode Forward



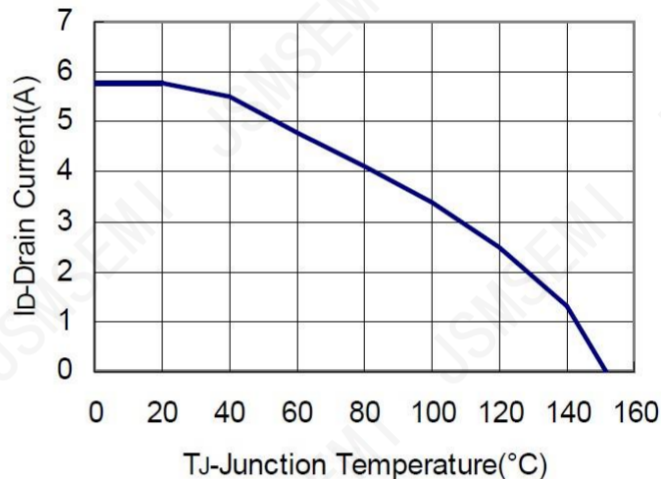
Capacitance



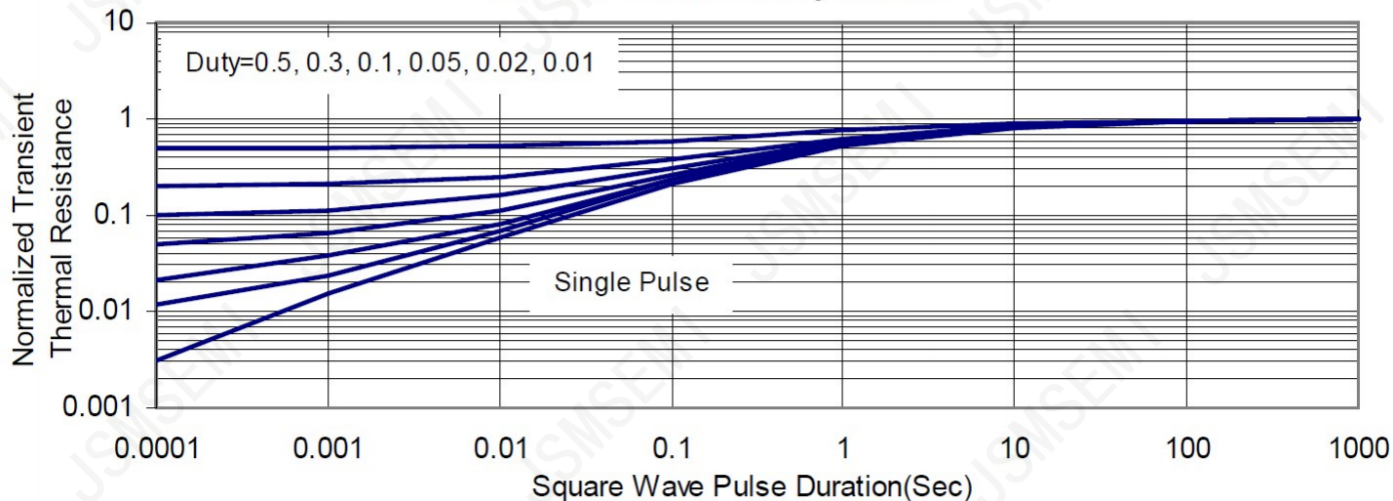
Power Dissipation



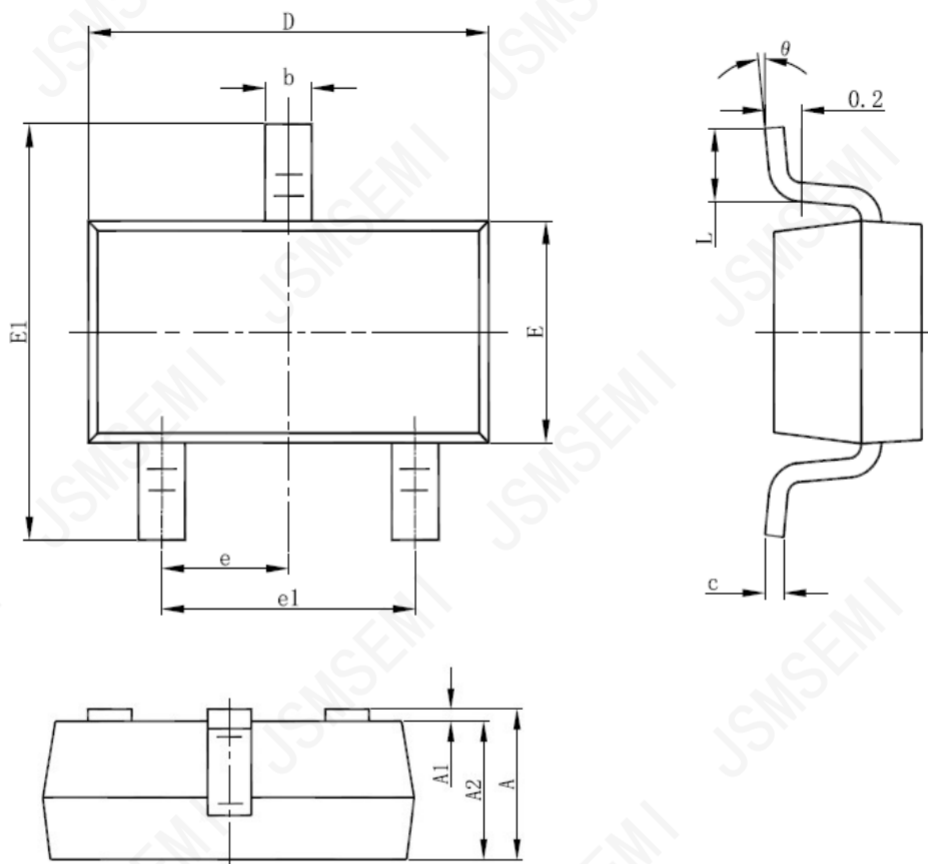
Drain Current



Thermal Transient Impedance



SOT23-3L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
C	0.100	0.200	0.004	0.008
D	2.820	3.030	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°