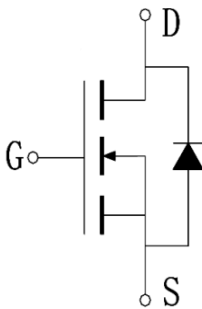




V _{DS}	R _{DS(on)} Typ.	I _D Max.
30V	28mΩ @ 10V	5.8A
	30mΩ @ 4.5V	
	36mΩ @ 2.5V	



Schematic Diagram

1.Features

- ◆ 30V MOSFET technology
- ◆ Low on-state resistance
- ◆ Fast switching
- ◆ V_{GS}±12V

2.Applications

- ◆ Power Switching Application
- ◆ Load Switching



SOT23-3
Pin Description

3. Package Marking and Ordering Information

Part no.	Marking	Package	PCS/Reel	PCS/CTN.
JX3400S3	A09T	SOT23-3	3,000	120,000

4.Absolute Max Ratings at Ta=25°C (Note1)

Parameter	Symbol	Maximum	Units
Drain to Source Voltage	V _{DSS}	29	V
Gate to Source Voltage	V _{GSS}	±12	V
Drain Current (DC)	I _D	5.8	A
Drain Current (Pulse), PW≤300μs	I _{DP}	30	A
Total Dissipation	P _D	1.4	W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{stg}	-55 to +150	°C

Note 1: Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.



5. Thermal Resistance Ratings (Note 2)

Parameter	Symbol	Value	Unit
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	89	$^{\circ}\text{C}/\text{W}$

Note 2: When mounted on 1 inch square copper board $t \leq 10\text{sec}$ The value in any given application depends on the user's specific board design.

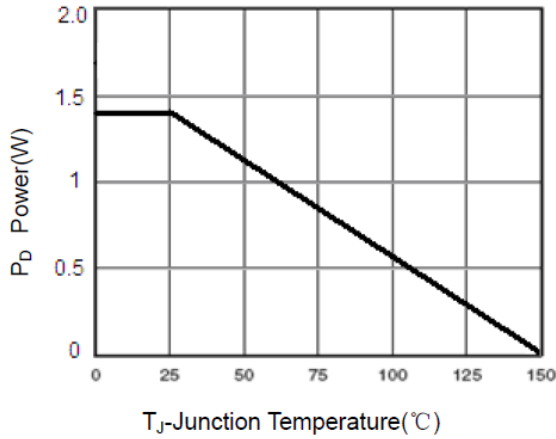
6. Electrical Characteristics at $T_a=25^{\circ}\text{C}$ (Note 3)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 250\mu\text{A}, V_{GS} = 0\text{V}$	30			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 30\text{V}, V_{GS} = 0\text{V}$			1	μA
Gate to Source Leakage Current	I_{GSS}	$V_{GS} = \pm 12\text{V}, V_{DS} = 0\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_{DS}=250\mu\text{A}$	0.5	0.95	1.5	V
Static Drain to Source On-State Resistance	$R_{DS(on)}$	$I_D = 5.8\text{A}, V_{GS} = 10\text{V}$		28	29.5	$\text{m}\Omega$
		$I_D = 5\text{A}, V_{GS} = 4.5\text{V}$		30	35	$\text{m}\Omega$
		$I_D = 3\text{A}, V_{GS} = 2.5\text{V}$		36	49	$\text{m}\Omega$
Input Capacitance	C_{iss}	$V_{GS}=0\text{V},$ $V_{DS}=15\text{V},$ Frequency=1.0MHz		820		pF
Output Capacitance	C_{oss}			99		pF
Reverse Transfer Capacitance	C_{rss}			77		pF
Turn-ON Delay Time	$t_{d(on)}$			3.3		ns
Rise Time	t_r	$V_{DD} = 15\text{V}, R_L=2.7\Omega,$ $V_{GS} = 10\text{V}, R_G = 3\Omega$		4.8		ns
Turn-OFF Delay Time	$t_{d(off)}$			26		ns
Fall Time	t_f			4		ns
Total Gate Charge	Q_g		$V_{DS} = 15\text{V},$ $V_{GS} = 4.5\text{V},$ $I_D = 5\text{A}$		9.5	
	Q_{gs}			1.5		nC
	Q_{gd}			3		nC
Diode Forward Voltage	V_{FSD}	$I_S = 5\text{A}, V_{GS} = 0$		0.9	1.2	V

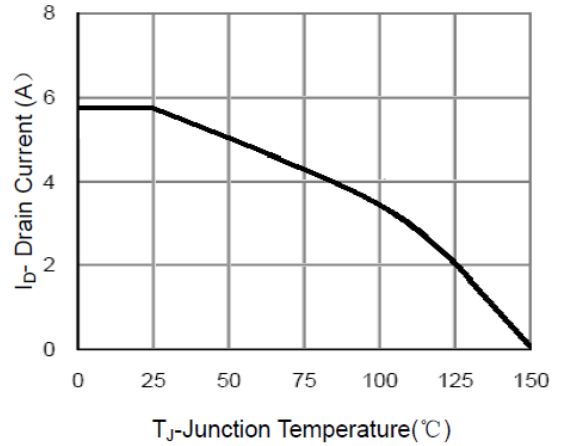
Note 3: Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.



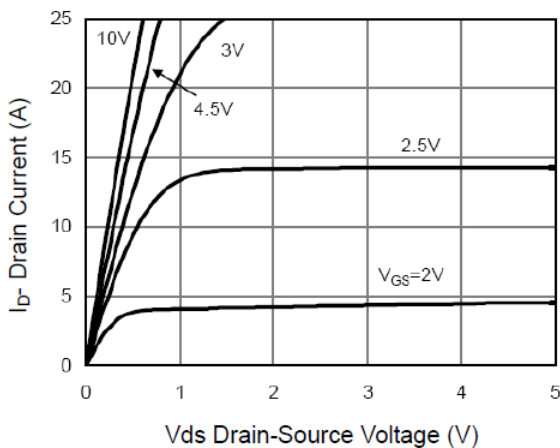
7. Typical Electrical and Thermal Characteristics



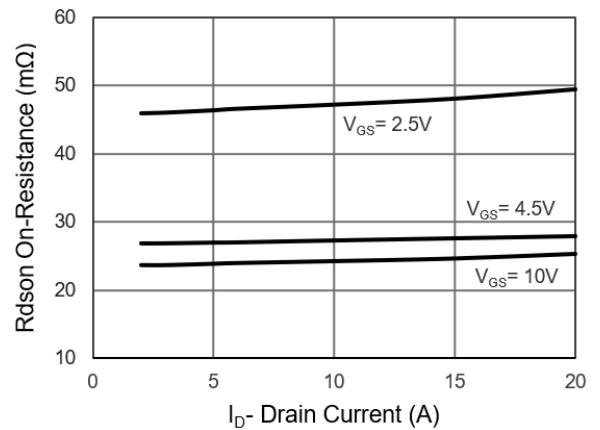
Power Dissipation



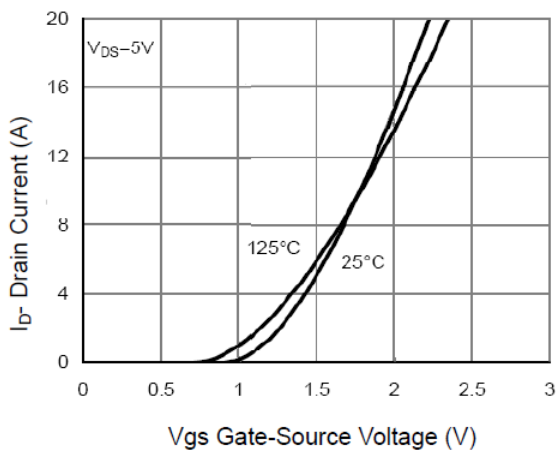
Drain Current



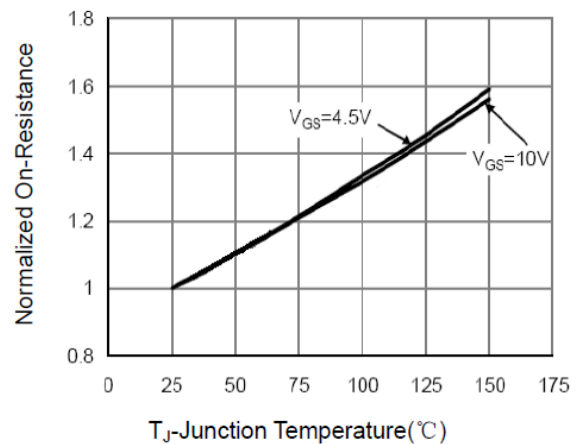
Output Characteristics



Drain-Source On-Resistance



Transfer Characteristics

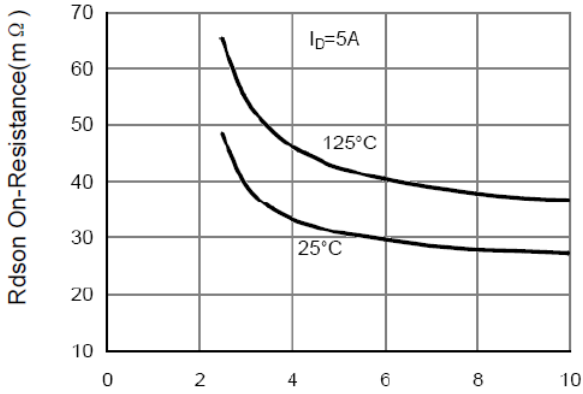


Drain-Source On-Resistance

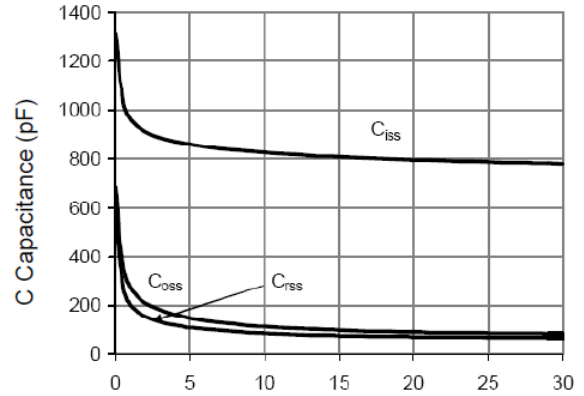


JX3400S3

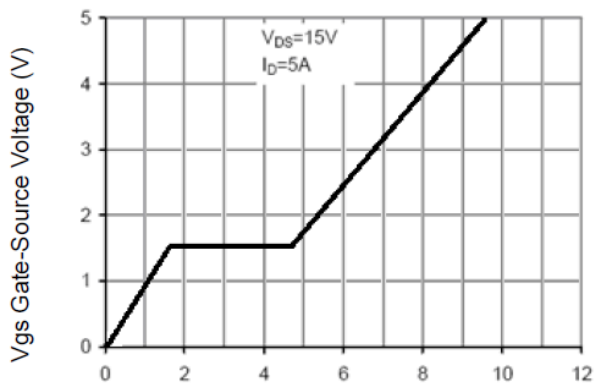
N-Channel Enhancement Mode MOSFET



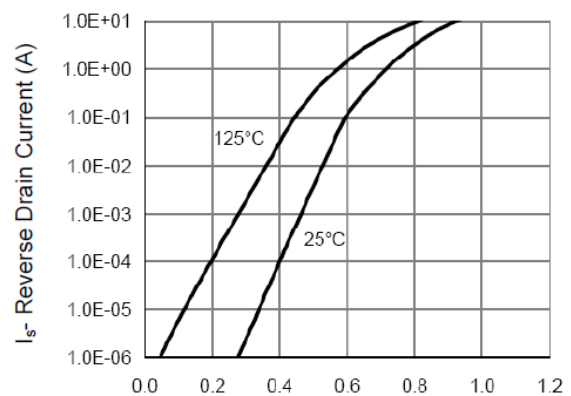
Rdson vs Vgs



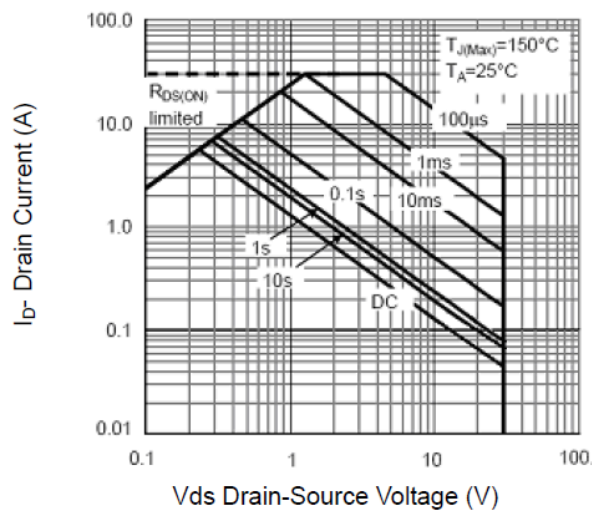
Capacitance vs Vds



Gate Charge



Source- Drain Diode Forward



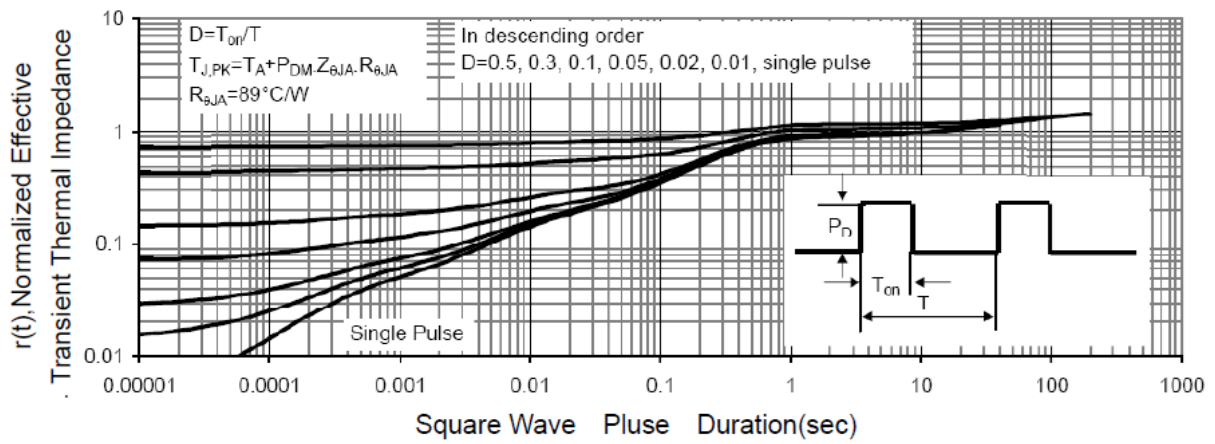
Safe Operation Area





JX3400S3

N-Channel Enhancement Mode MOSFET



Normalized Maximum Transient Thermal Impedance

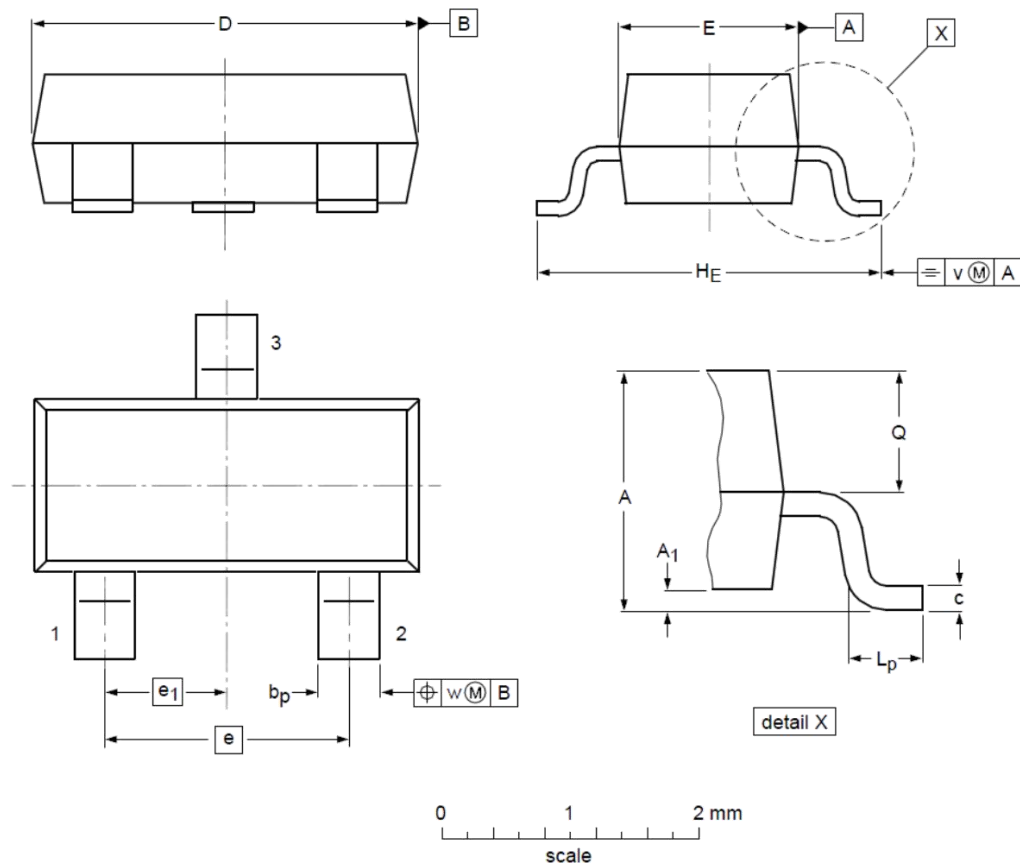




JX3400S3

N-Channel Enhancement Mode MOSFET

8.Package Dimensions



DIMENSIONS (unit : mm)

Symbol	Min	Typ	Max	Symbol	Min	Typ	Max
A	1.00	1.17	1.30	A ₁	0.01	0.05	0.10
b _p	0.35	0.39	0.50	c	0.10	0.20	0.26
D	2.70	2.90	3.10	E	1.30	1.58	1.70
e	--	1.90	--	e ₁	--	0.95	--
H _E	2.50	2.78	3.00	L _p	0.20	0.32	0.60
Q	0.23	0.27	0.33	v	--	0.20	--
w	--	0.20	--				

