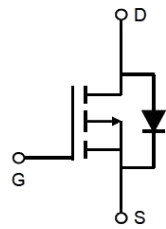




V_{DS}	$R_{DS(on)}$ Typ.	I_D
-30V	48mΩ @ -10V	-4.2A
	55mΩ @ -4.5V	
	71mΩ @ -2.5V	



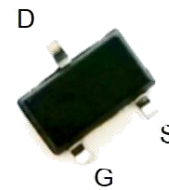
Schematic Diagram

1.Features

- ◆ Advanced Trench Technology
- ◆ Surface mount package

2.Applications

- ◆ Power Management
- ◆ Load Switching



SOT23-3
Pin Description

3.Package Marking and Ordering Information

Part no.	Marking	Package	PCS/Reel	PCS/CTN.
JX3401S3	A19T	SOT23-3	3,000	120,000

4.Absolute Max Ratings at $T_a=25^\circ\text{C}$ (Note1)

Parameter	Symbol	Maximum	Units
Drain to Source Voltage	V_{DSS}	-30	V
Gate to Source Voltage	V_{GSS}	± 12	V
Drain Current (DC)	I_D	-4	A
Drain Current (Pulse), $PW \leq 300\mu\text{s}$	I_{DP}	-30	A
Total Dissipation	P_D	1.7	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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	$R_{\theta JA}$	76.2	$^{\circ}C/W$

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

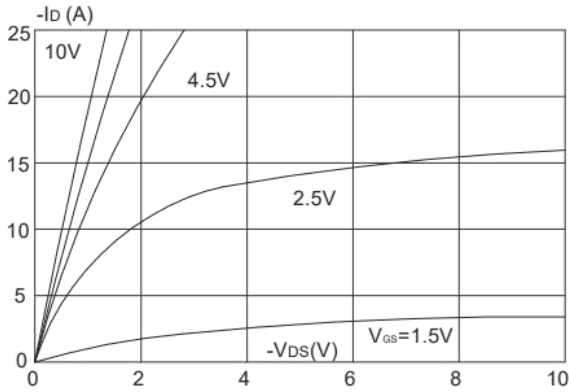
6. Electrical Characteristics at $T_a=25^{\circ}C$ (Note 3)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Units	
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = -250\mu A, V_{GS} = 0V$	-30	-33		V	
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -30V, V_{GS} = 0V$			-1	μA	
Gate to Source Leakage Current	I_{GSS}	$V_{GS} = \pm 12V, V_{DS} = 0V$			± 100	nA	
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_{DS}=-250\mu A$	-0.6	-0.9	-1.3	V	
Static Drain to Source On-State Resistance	$R_{DS(on)}$	$I_D = -4A, V_{GS} = -10V$		48	55	m Ω	
		$I_D = -3A, V_{GS} = -4.5V$		55	65	m Ω	
		$I_D = -1A, V_{GS} = -2.5V$		71	85	m Ω	
Input Capacitance	C_{iss}	$V_{GS}=0V,$ $V_{DS}=-15V,$ Frequency=1.0MHz		880		pF	
Output Capacitance	C_{oss}			104		pF	
Reverse Transfer Capacitance	C_{rss}			66		pF	
Turn-ON Delay Time	$t_{d(on)}$				7		ns
Rise Time	t_r	$V_{DD} = -15V, I_D = -1A,$ $R_G = 2.5\Omega, V_{GS} = -10V$		3		ns	
Turn-OFF Delay Time	$t_{d(off)}$				20		ns
Fall Time	t_f				10		ns
Total Gate Charge	Q_g	$V_{DS} = -15V,$		8.5		nC	
	Q_{gs}	$V_{GS} = -10V,$		2		nC	
	Q_{gd}	$I_D = -4A$		2.5		nC	
Diode Forward Voltage	V_{FSD}	$I_S = -4A, V_{GS} = 0$			-1.2	V	

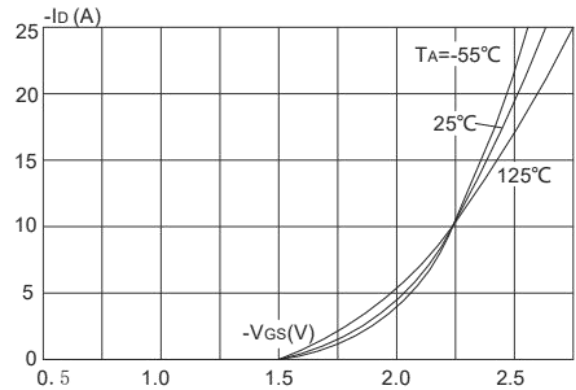
Note 3: Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.



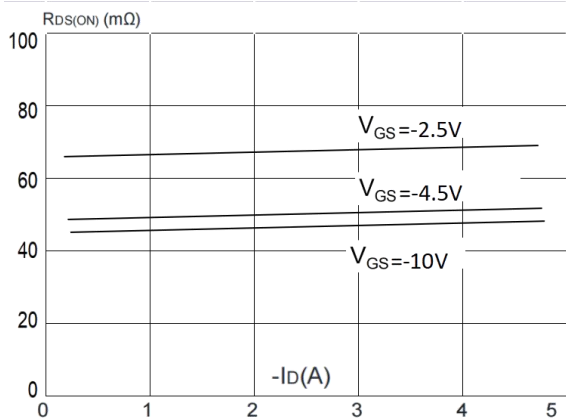
7. Typical Electrical and Thermal Characteristics



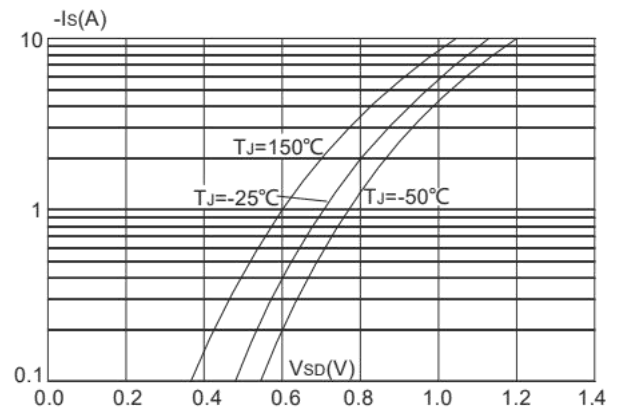
Output Characteristics



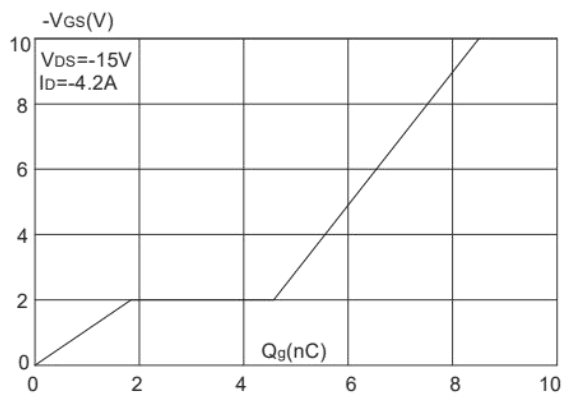
Typical Transfer Characteristics



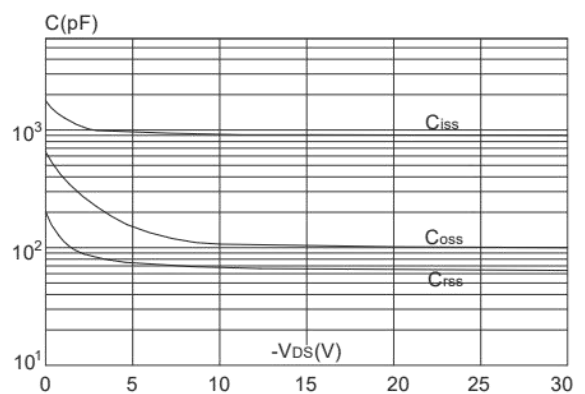
On-resistance vs. Drain Current



Body Diode Characteristics



Gate Charge Characteristics



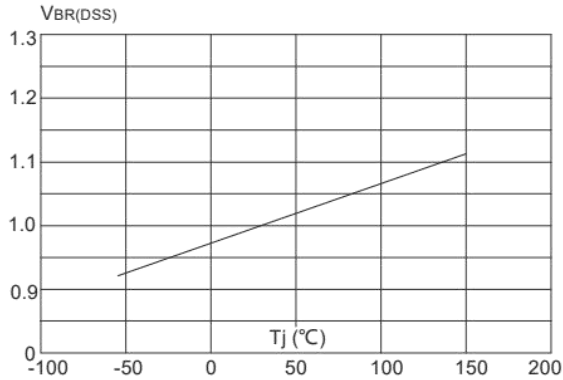
Capacitance Characteristics



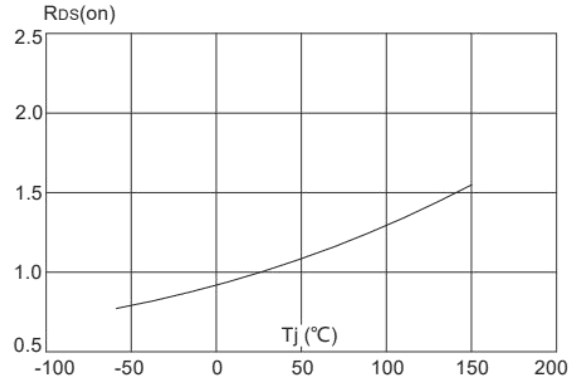


JX3401S3

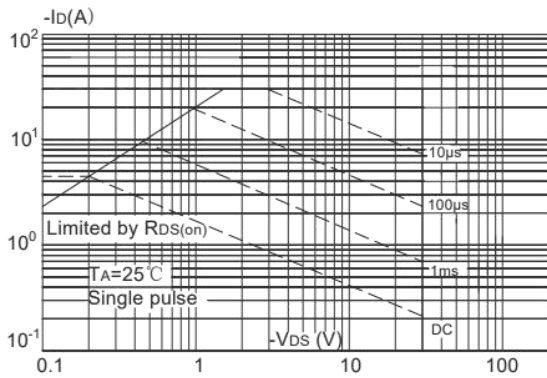
P-Channel Enhancement Mode MOSFET



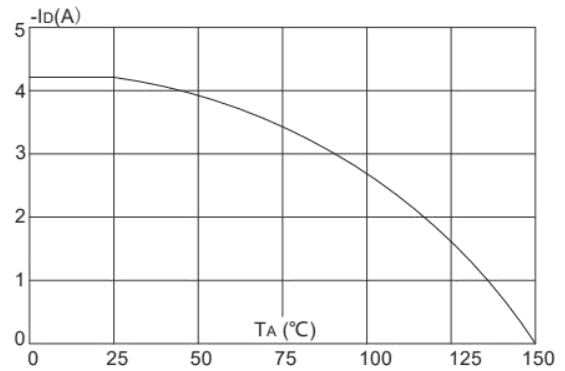
Normalized Breakdown Voltage vs. Junction Temperature



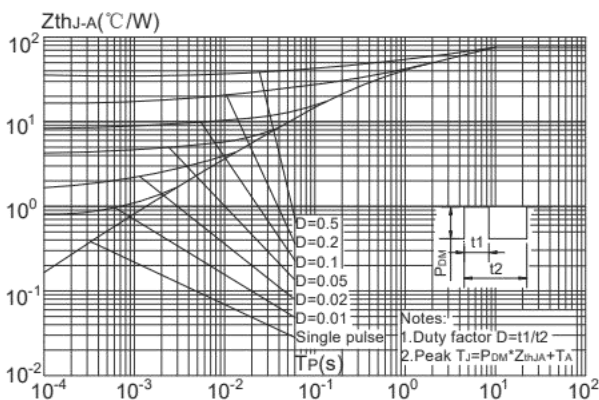
Normalized on Resistance vs. Junction Temperature



Maximum Safe Operating Area



Maximum Continuous Drain Current vs. Ambient Temperature

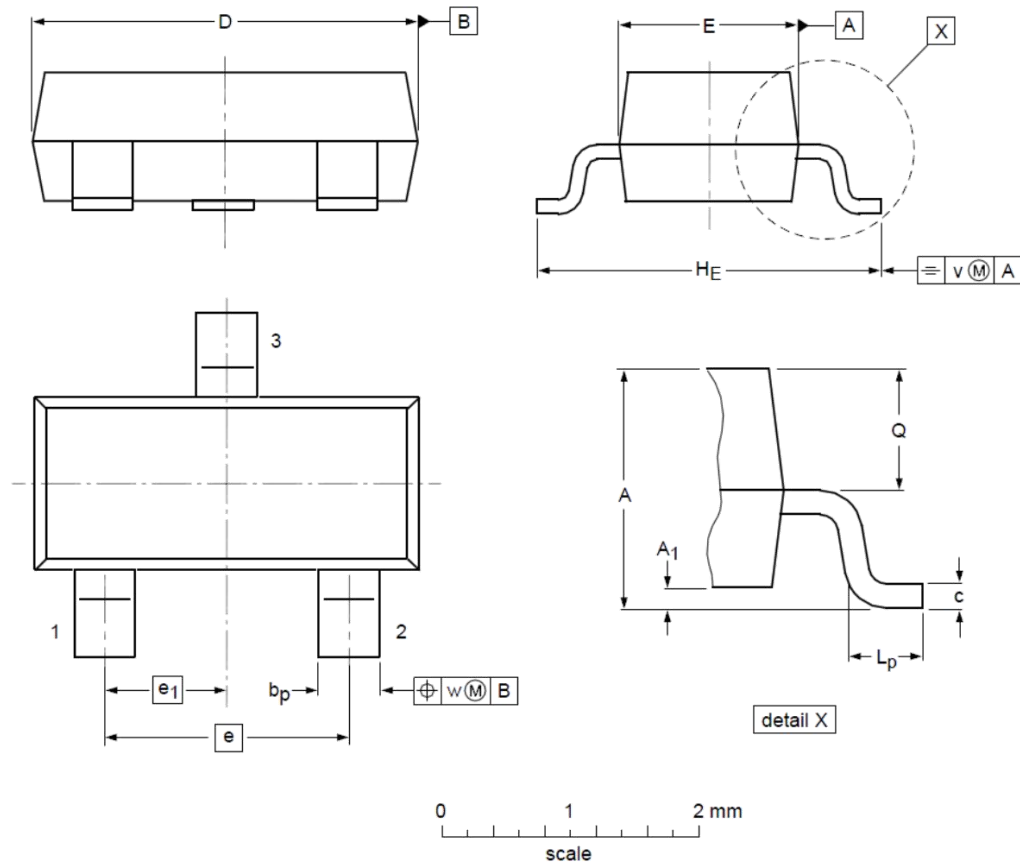


Maximum Effective Transient Thermal Impedance, Junction-to-Ambient





8.Package Dimensions



DIMENSIONS (unit : mm)

Symbol	Min	Typ	Max	Symbol	Min	Typ	Max
A	1.00	1.17	1.30	A₁	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	--	e₁	--	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	--				