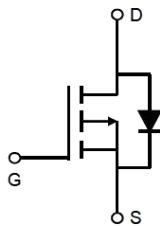




$V_{DS}$	$R_{DS(on)}$ Typ.	$I_D$
-30V	45m $\Omega$ @ -10V	-4.2A
	51m $\Omega$ @ -4.5V	
	66m $\Omega$ @ -2.5V	



Schematic Diagram

### 1.Features

- ◆ Advanced Trench Technology
- ◆ Surface mount package

### 2.Applications

- ◆ Power Management
- ◆ Load Switching



SOT23

Pin Description

### 3.Package Marking and Ordering Information

Part no.	Marking	Package	PCS/Reel	PCS/CTN.
JX3401SS	A19T	SOT23	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	$V_{GSS}$	$\pm 12$	V
Drain Current (DC)	$I_D$	-4.2	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  $t \leq 10\text{sec}$  The value in any given application depends on the user's specific board design.

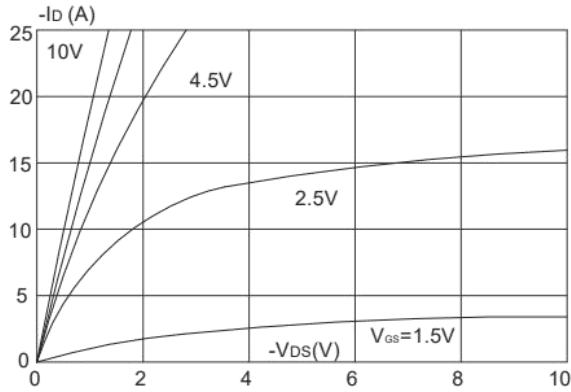
### 6. Electrical Characteristics at $T_a=25^{\circ}C$ (Note 3)

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			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = -27V, V_{GS} = 0V$			-100	nA
Gate to Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 12V, V_{DS} = 0V$			$\pm 100$	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_{DS}=-250\mu A$	-0.6		-1.0	V
Static Drain to Source On-State Resistance	$R_{DS(on)}$	$I_D = -4A, V_{GS} = -10V$		45	50	m $\Omega$
		$I_D = -3.5A, V_{GS} = -4.5V$		51	60	m $\Omega$
		$I_D = -2.5A, V_{GS} = -2.5V$		66	80	m $\Omega$
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	$Q_g$	$V_{DS} = -15V,$ $V_{GS} = -10V,$ $I_D = -4A$		8.5		nC
	$Q_{gs}$			2		nC
	$Q_{gd}$			2.5		nC
Diode Forward Voltage	$V_{FSD}$	$I_S = -1A, V_{GS} = 0$	-0.4	-0.8	-1.0	V

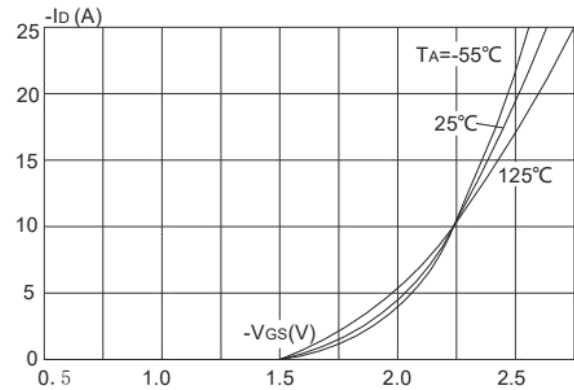
Note 3: Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.



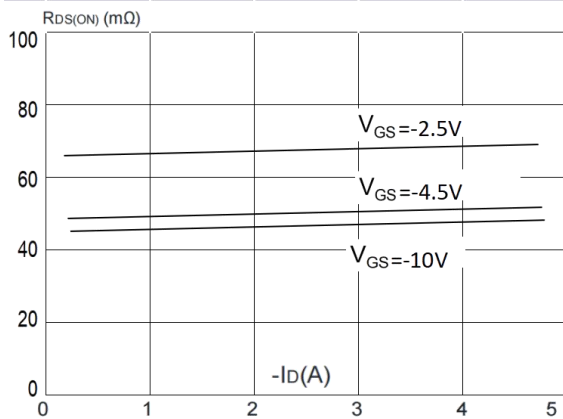
### 7. Typical Electrical and Thermal Characteristics



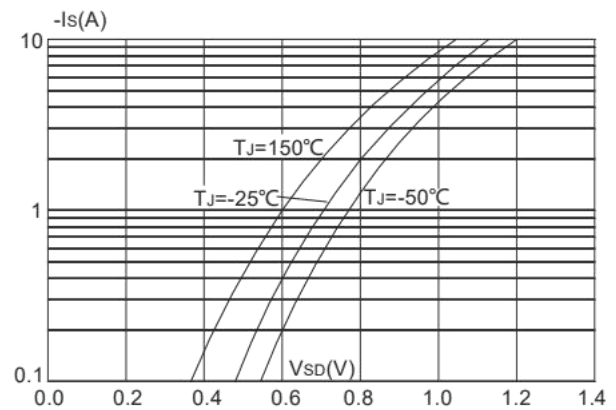
Output Characteristics



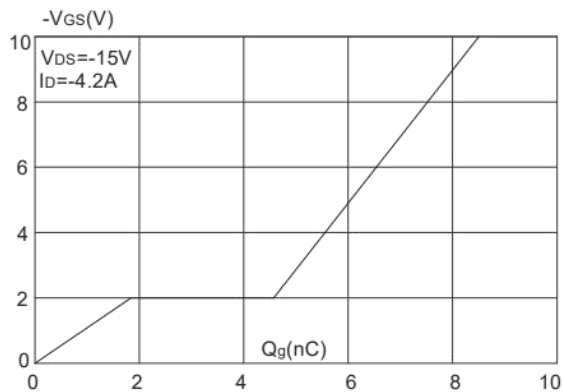
Typical Transfer Characteristics



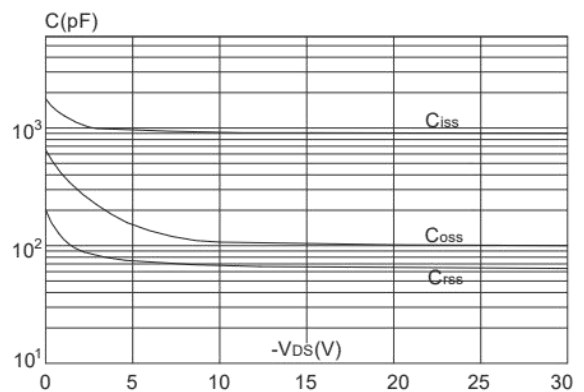
On-resistance vs. Drain Current



Body Diode Characteristics



Gate Charge Characteristics

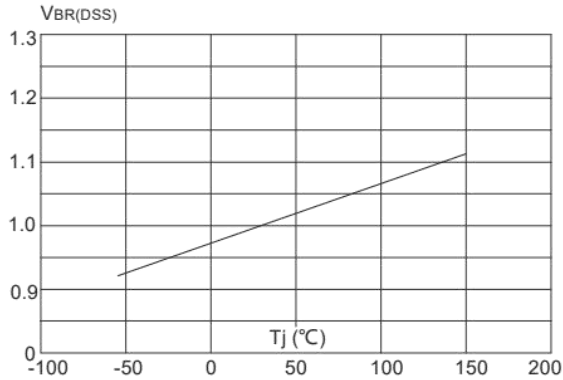


Capacitance Characteristics

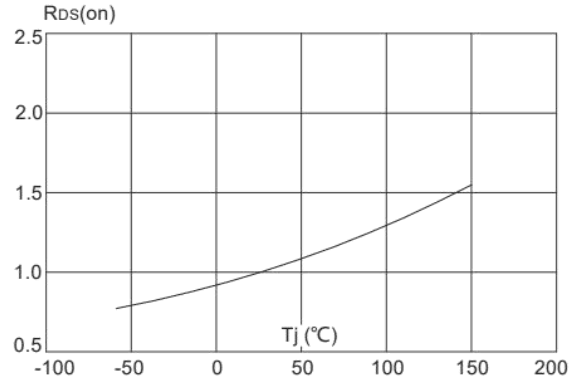


**JX3401SS**

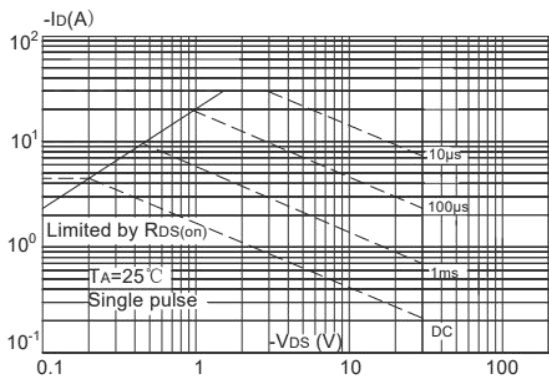
**P-Channel Enhancement Mode MOSFET**



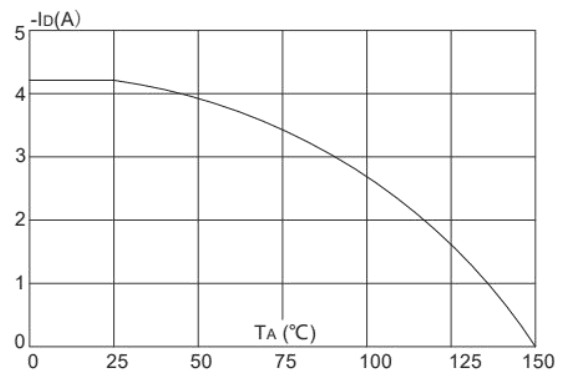
**Normalized Breakdown Voltage vs. Junction Temperature**



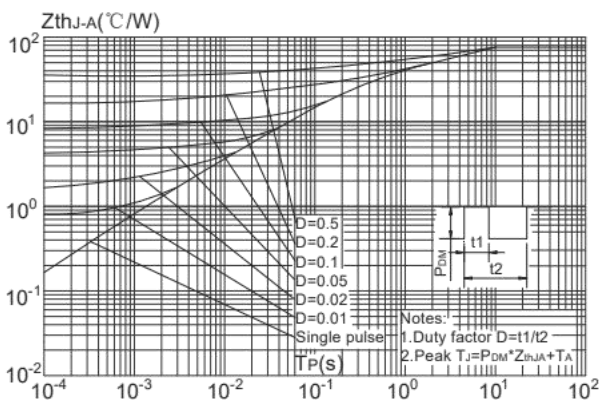
**Normalized on Resistance vs. Junction Temperature**



**Maximum Safe Operating Area**



**Maximum Continuous Drain Current vs. Ambient Temperature**



**Maximum Effective Transient Thermal Impedance, Junction-to-Ambient**

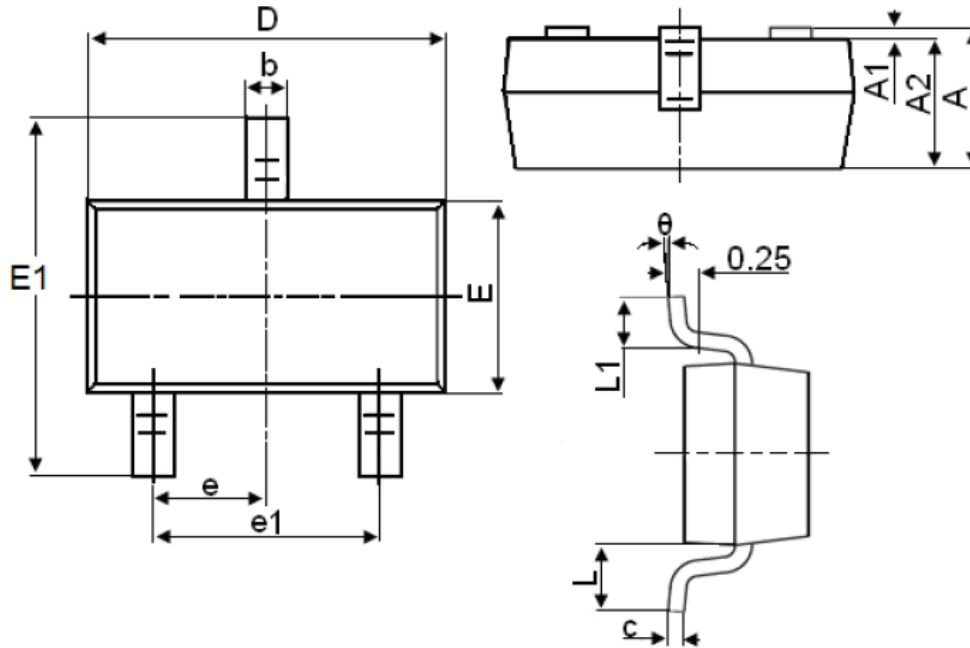




**JX3401SS**

**P-Channel Enhancement Mode MOSFET**

**8.Package Dimensions**



Symbol	Dimensions in Millimeters		
	MIN.	TYP.	MAX.
A	0.900		1.150
A1	0.000		0.100
A2	0.900		1.050
b	0.300		0.500
c	0.080		0.150
D	2.800		3.000
E	1.200		1.400
E1	2.250		2.550
e		0.950	
e1	1.800		2.000
L		0.550	
L1	0.300		0.500
θ	0°		8°