

# DP3401

## DP3401 P-Channel Enhancement Mode Field Effect Transistor

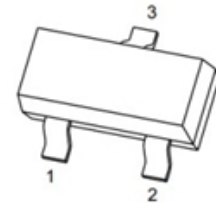
### General description

P-Channel Enhancement Mode Field Effect Transistor

### FEATURES

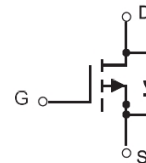
- $V_{DS}$  (V) = -30V,  $I_D$  = -5.1A
- High dense cell design for extremely low  $R_{DS(ON)}$ .
- Load/Power Switching
- Exceptional on-resistance and maximum DC current capability
- Interfacing Switching

### SOT-23



1. GATE
2. SOURCE
3. DRAIN

### Equivalent Circuit



### MARKING :

Device Type	Device Marking
DP3401	P05 or A19T

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	$I_D$
-30 V	65mΩ@-10V	-4A
	75mΩ@-4.5V	
	90mΩ@-2.5V	

### Maximum ratings ( $T_a=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	-30	V
Gate-Source Voltage	$V_{GS}$	±12	V
Continuous Drain Current	$I_D$	-4	A
Power Dissipation	$P_D$	350	mW
Thermal Resistance from Junction to Ambient ( $t < 5s$ )	$R_{\theta JA}$	357	$^{\circ}C/W$
Junction Temperature	$T_J$	150	$^{\circ}C$
Storage Temperature	$T_{STG}$	-55~+150	$^{\circ}C$

# DP3401

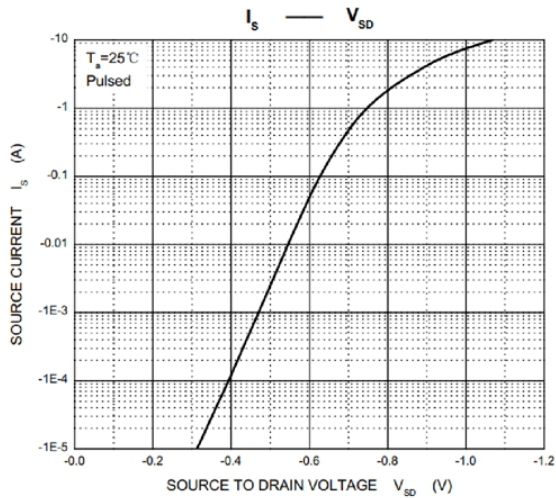
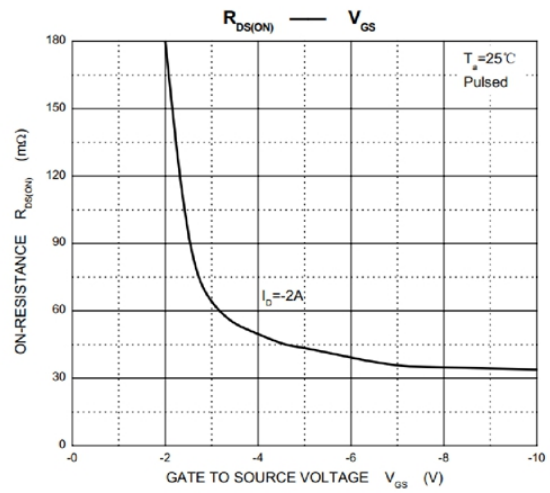
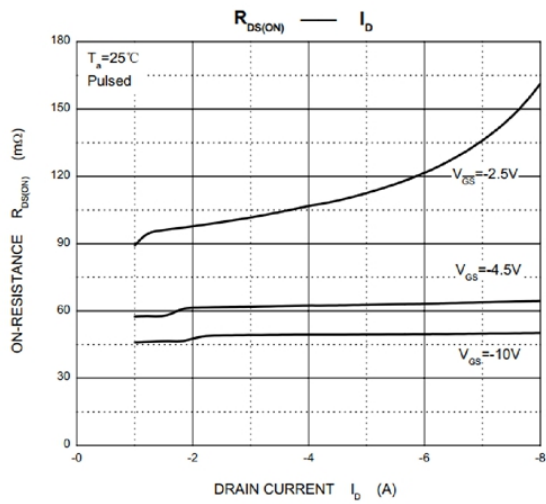
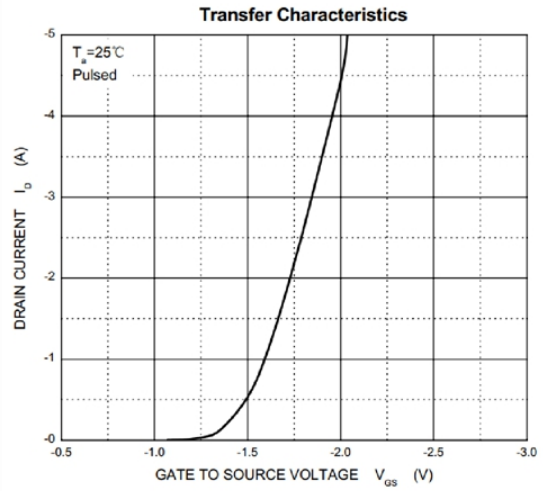
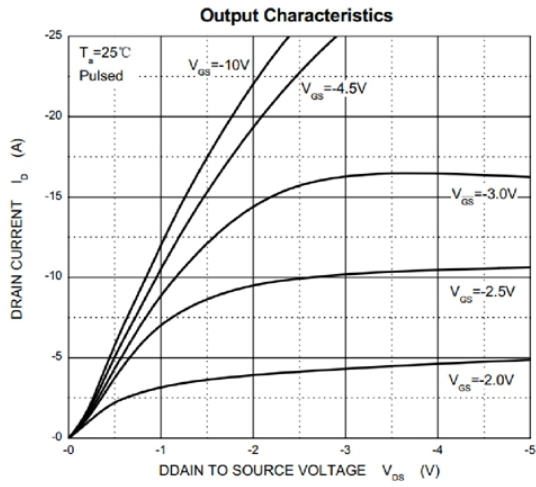
■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>Off characteristics</b>						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30			V
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = -24V, V_{GS} = 0V$			-1	$\mu A$
Gate-source leakage current	$I_{GSS}$	$V_{GS} = \pm 12V, V_{DS} = 0V$			$\pm 100$	nA
<b>On characteristics</b>						
Drain-source on-resistance (note 1)	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -4.2A$		50	65	m $\Omega$
		$V_{GS} = -4.5V, I_D = -4A$		60	75	m $\Omega$
		$V_{GS} = -2.5V, I_D = -1A$		75	100	m $\Omega$
Forward transconductance (note 1)	$g_{FS}$	$V_{DS} = -5V, I_D = -5A$	7			S
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.7	-0.9	-1.3	V
<b>Dynamic characteristics (note 2)</b>						
Input capacitance	$C_{iss}$	$V_{DS} = -15V, V_{GS} = 0V, f = 1MHz$		954		pF
Output capacitance	$C_{oss}$			115		pF
Reverse transfer capacitance	$C_{rss}$			77		pF
<b>Switching characteristics (note 2)</b>						
Turn-on delay time	$t_{d(on)}$	$V_{GS} = -10V, V_{DS} = -15V,$ $R_L = 3.6\Omega, R_{GEN} = 6\Omega$			6.3	ns
Turn-on rise time	$t_r$				3.2	ns
Turn-off delay time	$t_{d(off)}$				38.2	ns
Turn-off fall Time	$t_f$				12	ns
<b>Drain-source diode characteristics and maximum ratings</b>						
Diode forward voltage (note 1)	$V_{SD}$	$I_S = -1A, V_{GS} = 0V$			-1	V

**Note :**

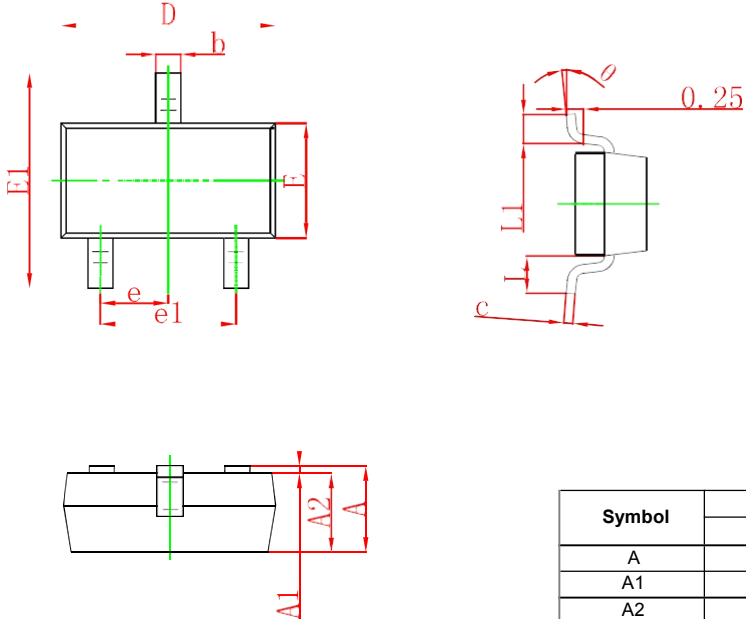
1. Pulse Test : Pulse width  $\leq 300\mu s$ , duty cycles  $\leq 2\%$ .
2. These parameters have no way to verify.

## Typical Characteristics



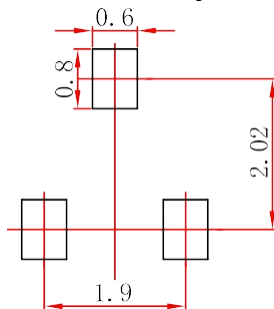
# DP3401

## SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

## SOT-23 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

## Important Notice and Disclaimer

DOESHARE has used reasonable care in preparing the information included in this document, but DOESHARE does not warrant that such information is error free. DOESHARE assumes no liability whatsoever for any damages incurred by you resulting from errors in or omissions from the information included herein.

DOESHARE no warranty, representation or guarantee regarding the documents, circuits and products specification, DOESHARE reservation rights to make changes for any documents, products, circuits and specifications at any time without notice.

Purchasers are solely responsible for the choice, selection and use of the DOESHARE products and services described herein, and DOESHARE assumes no liability whatsoever relating to the choice, selection or use of the products and services described herein.

No license, express or implied, by implication or otherwise under any intellectual property rights of DOESHARE.

Resale of DOESHARE products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by DOESHARE for the DOESHARE product or service described herein and shall not create or extend in any manner whatsoever, any liability of DOESHARE.

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [MOSFET](#) category:*

*Click to view products by [Doeshare](#) manufacturer:*

Other Similar products are found below :

[614233C](#) [648584F](#) [IRFD120](#) [IRFF430](#) [JANTX2N5237](#) [2N7000](#) [FCA20N60\\_F109](#) [FDZ595PZ](#) [AOD464](#) [2SK2267\(Q\)](#) [2SK2545\(Q,T\)](#)  
[405094E](#) [423220D](#) [MIC4420CM-TR](#) [VN1206L](#) [614234A](#) [715780A](#) [SSM6J414TU,LF\(T](#) [751625C](#) [PSMN4R2-30MLD](#)  
[TK31J60W5,S1VQ\(O](#) [2SK2614\(TE16L1,Q\)](#) [DMN1017UCP3-7](#) [EFC2J004NUZTDG](#) [FCAB21350L1](#) [P85W28HP2F-7071](#) [DMN1053UCP4-7](#)  
[NTE2384](#) [NTE2969](#) [NTE6400A](#) [DMN2080UCB4-7](#) [DMN61D9UWQ-13](#) [US6M2GTR](#) [DMN31D5UDJ-7](#) [SSM6P54TU,LF](#) [DMP22D4UFO-](#)  
[7B](#) [IPS60R3K4CEAKMA1](#) [DMN1006UCA6-7](#) [DMN16M9UCA6-7](#) [STF5N65M6](#) [STU5N65M6](#) [C3M0021120D](#) [DMN13M9UCA6-7](#)  
[BSS340NWH6327XTSA1](#) [MCM3400A-TP](#) [DMTH10H4M6SPS-13](#) [IRF40SC240ARMA1](#) [IPS60R1K0PFD7SAKMA1](#)  
[IPS60R360PFD7SAKMA1](#) [IPS60R600PFD7SAKMA1](#)