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# 2SJ181(L), 2SJ181(S)

Silicon P-Channel MOS FET

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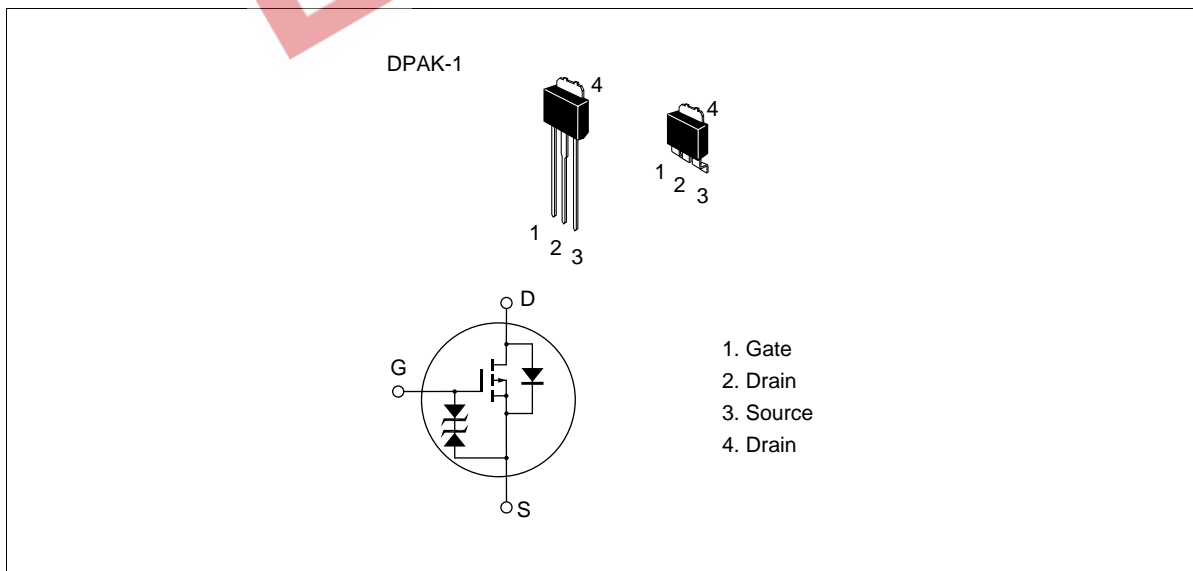
## Application

High speed power switching

## Features

- Low on-resistance
- High speed switching
- Low drive current
- No secondary breakdown
- Suitable for switching regulator and DC-DC converter

## Outline



## 2SJ181(L), 2SJ181(S)

### Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	$V_{DSS}$	-600	V
Gate to source voltage	$V_{GSS}$	±15	V
Drain current	$I_D$	-0.5	A
Drain peak current	$I_{D(pulse)}^{*1}$	-1.0	A
Body to drain diode reverse drain current	$I_{DR}$	-0.5	A
Channel dissipation	Pch <sup>*2</sup>	20	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

Notes: 1. PW ≤ 10 μs, duty cycle ≤ 1%

2. Value at T<sub>c</sub> = 25°C

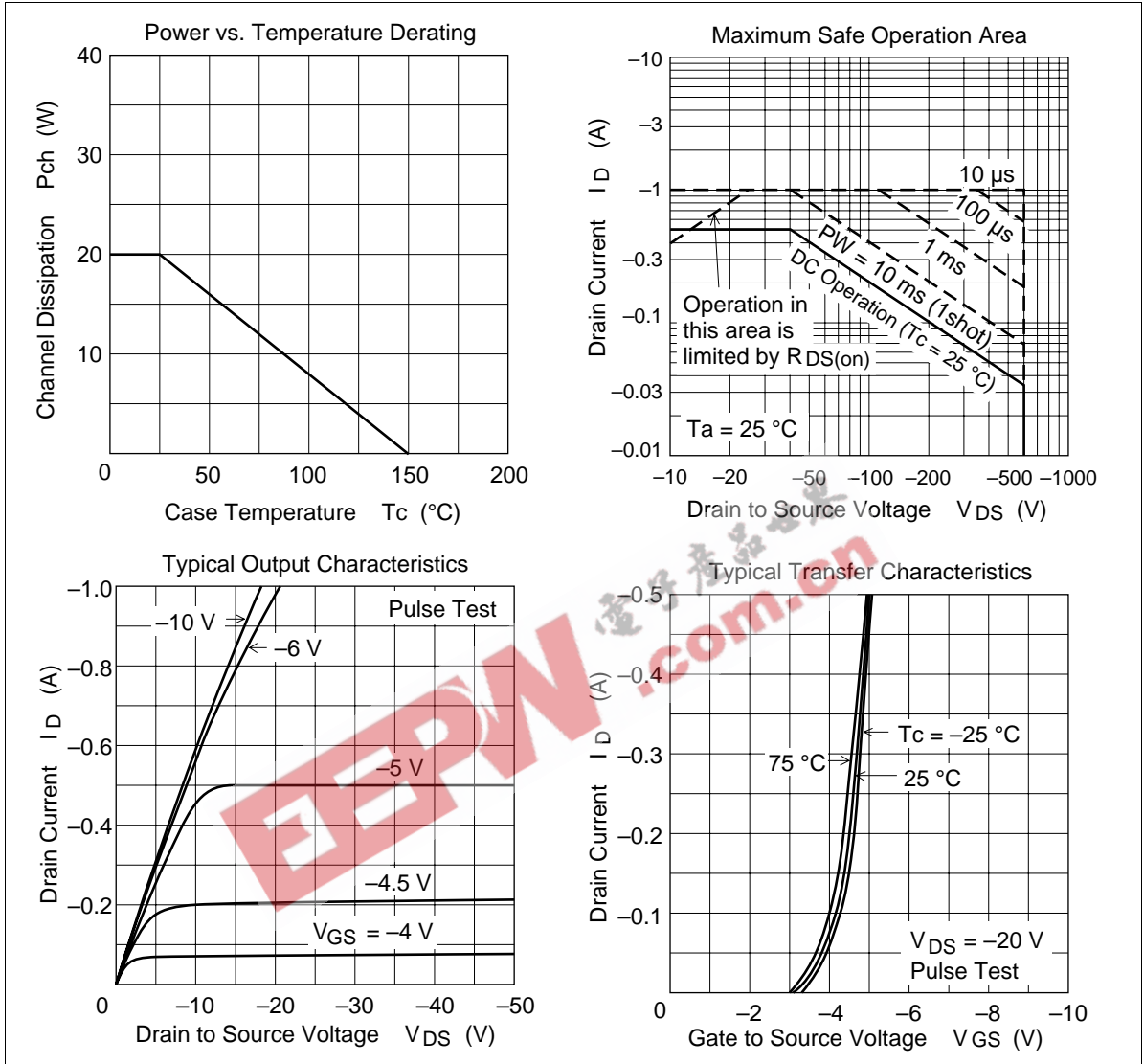
### Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	-600	—	—	V	$I_D = -10$ mA, $V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR)GSS}$	±15	—	—	V	$I_G = ±100$ μA, $V_{DS} = 0$
Gate to source leak current	$I_{GSS}$	—	—	±10	μA	$V_{GS} = ±12$ V, $V_{DS} = 0$
Zero gate voltage drain current	$I_{DSS}$	—	—	-100	μA	$V_{DS} = -500$ V, $V_{GS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	-2.0	—	-4.0	V	$I_D = -1$ mA, $V_{DS} = -10$ V
Static drain to source on state resistance	$R_{DS(on)}$	—	15	25	Ω	$I_D = -0.3$ A, $V_{GS} = -10$ V <sup>*1</sup>
Forward transfer admittance	$ y_{fs} $	0.3	0.45	—	S	$I_D = -0.3$ A, $V_{DS} = -20$ V <sup>*1</sup>
Input capacitance	Ciss	—	220	—	pF	$V_{DS} = -10$ V, $V_{GS} = 0$ ,
Output capacitance	Coss	—	55	—	pF	f = 1 MHz
Reverse transfer capacitance	Crss	—	13	—	pF	
Turn-on delay time	$t_{d(on)}$	—	7	—	ns	$I_D = -0.3$ A, $V_{GS} = -10$ V,
Rise time	$t_r$	—	20	—	ns	$R_L = 100$ Ω
Turn-off delay time	$t_{d(off)}$	—	35	—	ns	
Fall time	$t_f$	—	35	—	ns	
Body to drain diode forward voltage	$V_{DF}$	—	-0.85	—	V	$I_F = -0.5$ A, $V_{GS} = 0$
Body to drain diode reverse recovery time	$t_{rr}$	—	230	—	ns	$I_F = -0.5$ A, $V_{GS} = 0$ , $di_F/dt = 50$ A/μs

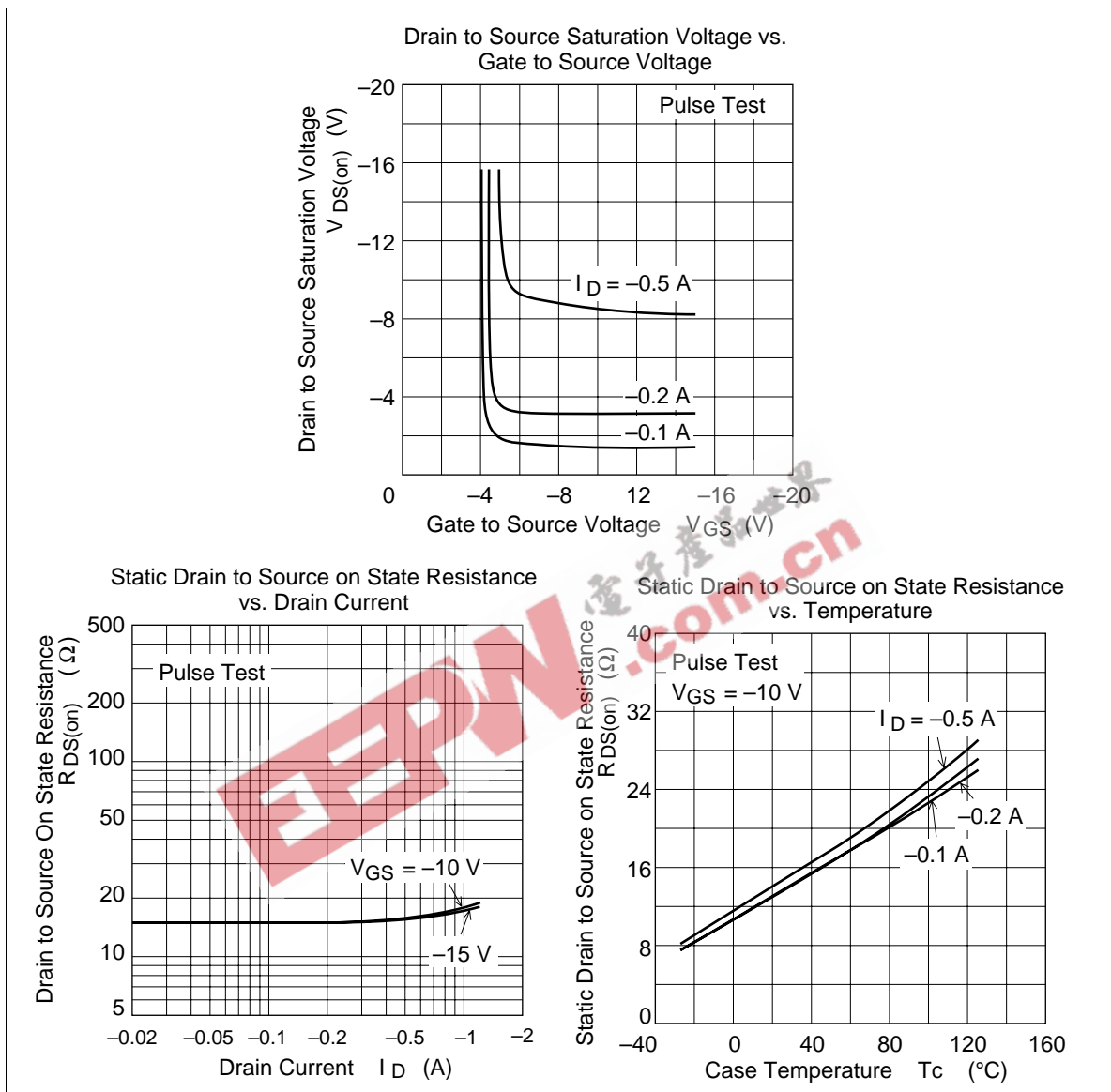
Note: 1. Pulse test

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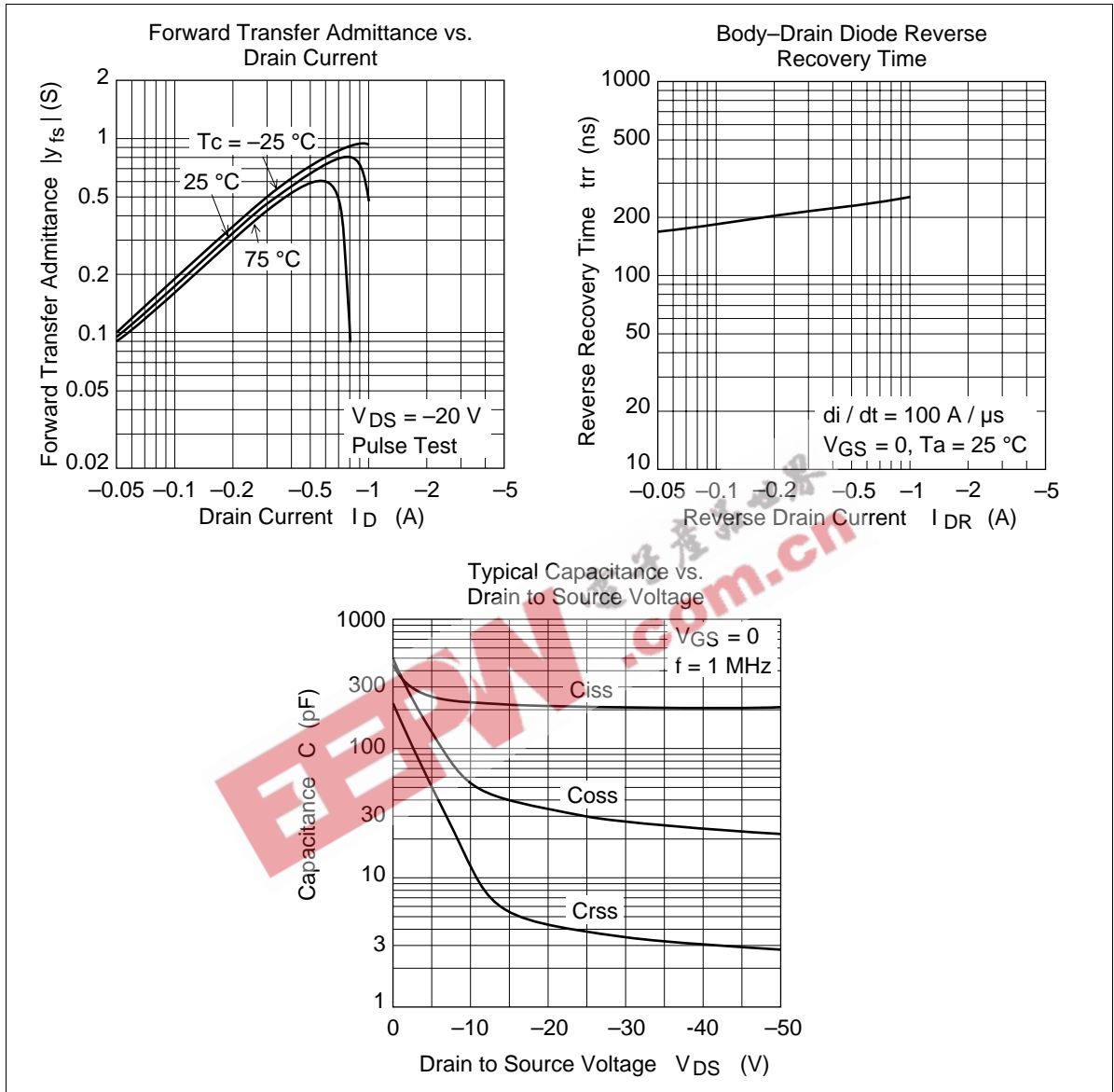
## 2SJ181(L), 2SJ181(S)



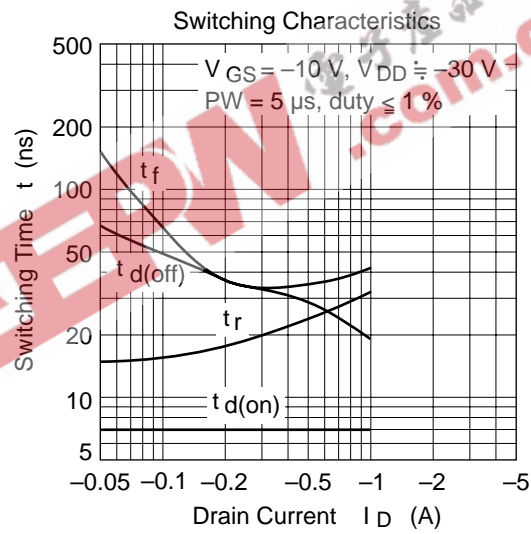
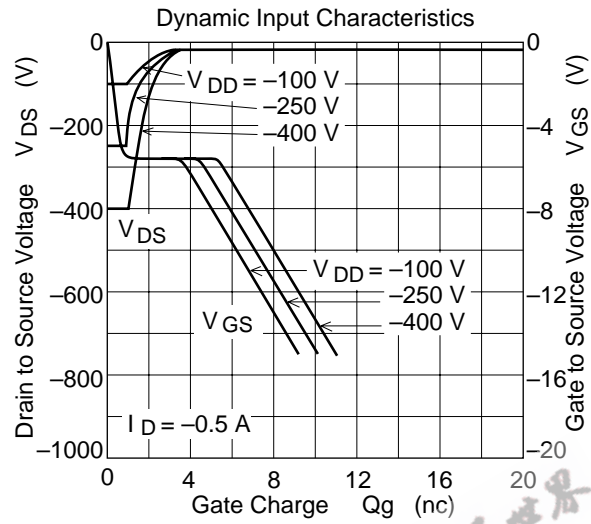
## 2SJ181(L), 2SJ181(S)



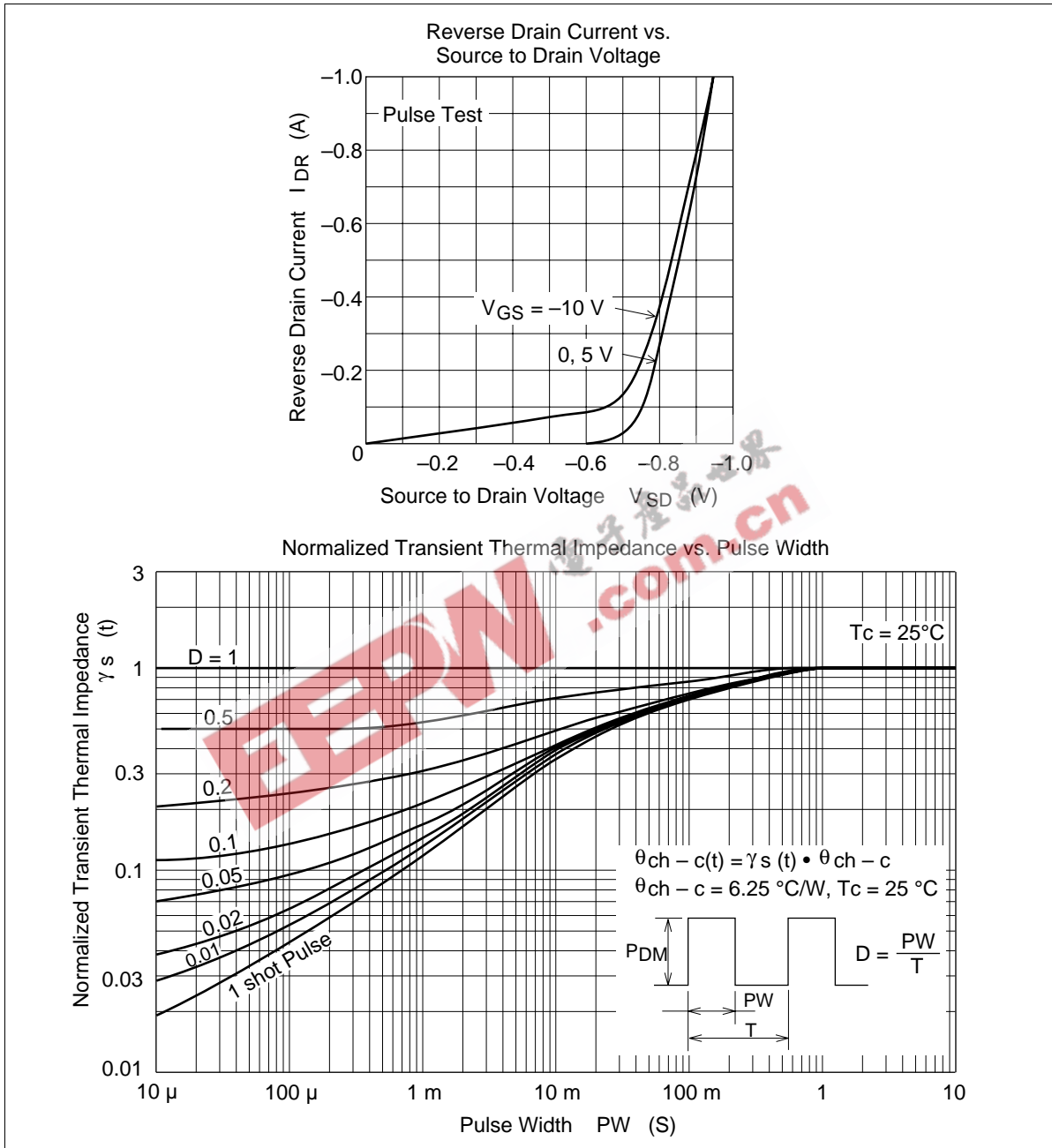
## 2SJ181(L), 2SJ181(S)



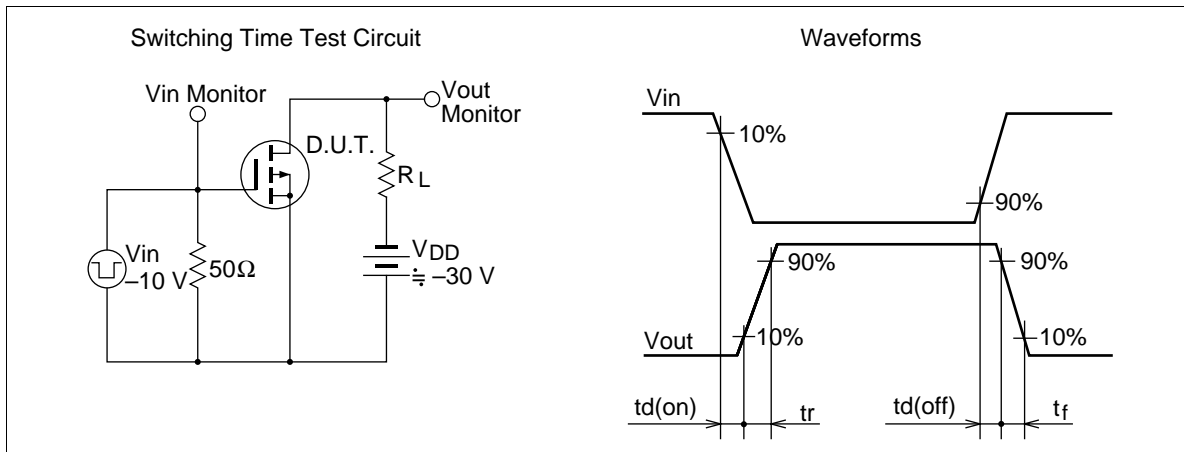
## 2SJ181(L), 2SJ181(S)



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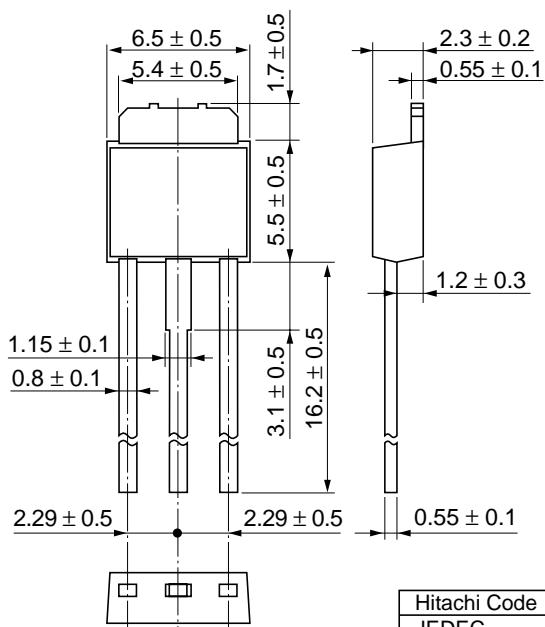
## 2SJ181(L), 2SJ181(S)



EEPW 电子产品世界  
.com.cn



Unit: mm



Hitachi Code	DPAK (L)-(1)
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.42 g

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## Hitachi, Ltd.

Semiconductor & Integrated Circuits.  
Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan  
Tel: Tokyo (03) 3270-2111 Fax: (03) 3270-5109

URL      North America      : <http://semiconductor.hitachi.com/>  
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### For further information write to:

Hitachi Semiconductor  
(America) Inc.  
179 East Tasman Drive,  
San Jose, CA 95134  
Tel: <1> (408) 433-1990  
Fax: <1> (408) 433-0223

Hitachi Europe GmbH  
Electronic components Group  
Dornacher StraÙe 3  
D-85622 Feldkirchen, Munich  
Germany  
Tel: <49> (89) 9 9180-0  
Fax: <49> (89) 9 29 30 00

Hitachi Europe Ltd.  
Electronic Components Group.  
Whitebrook Park  
Lower Cookham Road  
Maidenhead  
Berkshire SL6 8YA, United Kingdom  
Tel: <44> (1628) 585000  
Fax: <44> (1628) 778322

Hitachi Asia Pte. Ltd.  
16 Collyer Quay #20-00  
Hitachi Tower  
Singapore 049318  
Tel: 535-2100  
Fax: 535-1533

Hitachi Asia Ltd.  
Taipei Branch Office  
3F, Hung Kuo Building, No.167,  
Tun-Hwa North Road, Taipei (105)  
Tel: <886> (2) 2718-3666  
Fax: <886> (2) 2718-8180

Hitachi Asia (Hong Kong) Ltd.  
Group III (Electronic Components)  
7/F., North Tower, World Finance Centre,  
Harbour City, Canton Road, Tsim Sha Tsui,  
Kowloon, Hong Kong  
Tel: <852> (2) 735 9218  
Fax: <852> (2) 730 0281  
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