
2SJ181(L), 2SJ181(S)

Silicon P-Channel MOS FET

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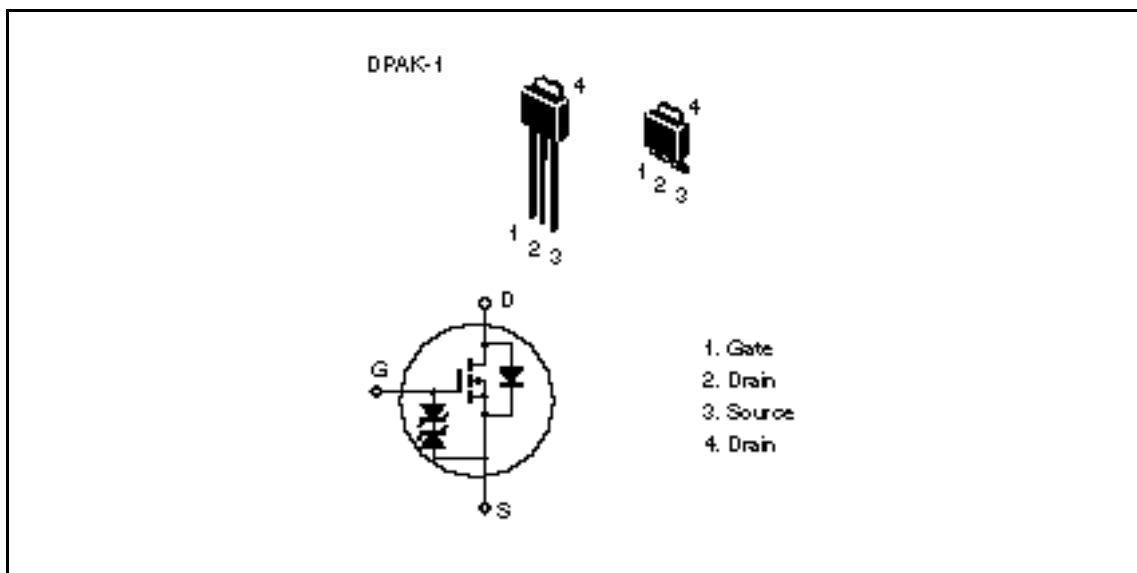
Application

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



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Absolute Maximum Ratings (Ta = 25°C)

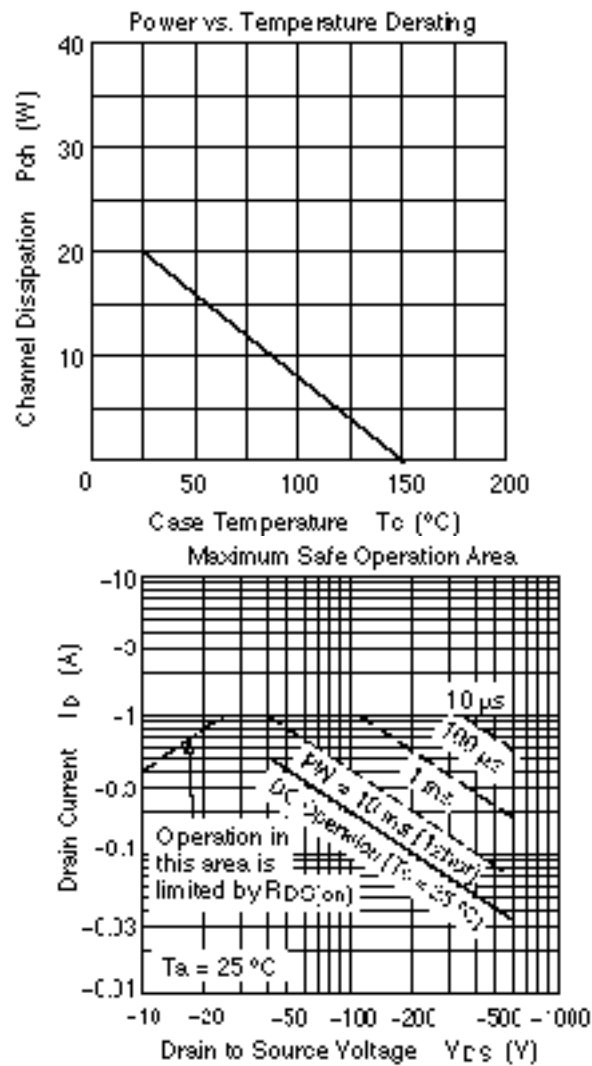
Item	Symbol	Ratings	Unit
Drain to source voltage	V_{DSS}	-600	V
Gate to source voltage	V_{GSS}	±15	V
Drain current	I_D	-0.5	A
Drain peak current	$I_{D(pulse)}^{*1}$	-1.0	A
Body to drain diode reverse drain current	I_{DR}	-0.5	A
Channel dissipation	Pch ^{*2}	20	W
Channel temperature	Tch	150	°C
Storage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

Notes: 1. PW 10 μs, duty cycle 1%
2. Value at T_C = 25°C

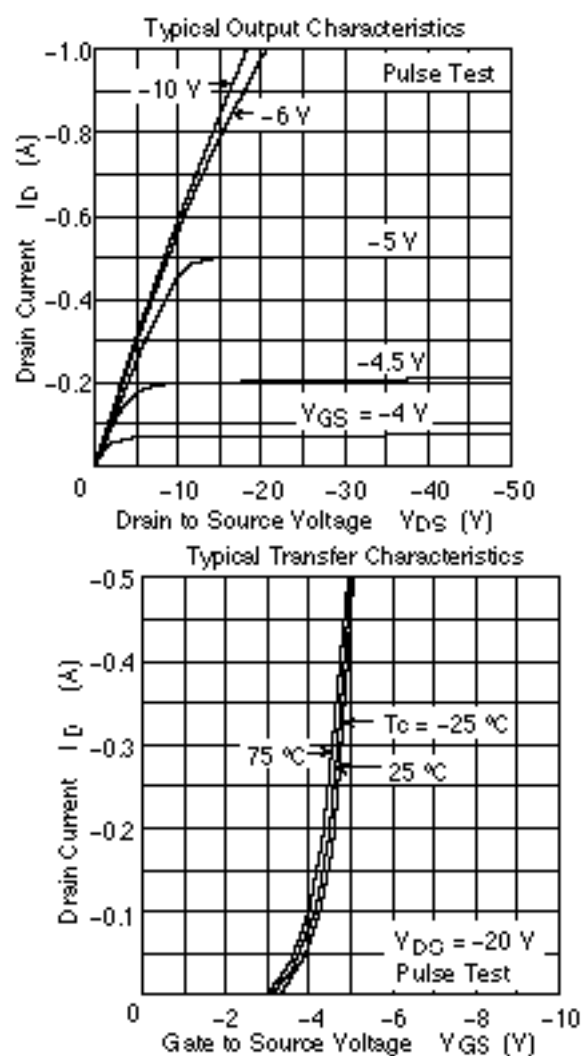
Electrical Characteristics (Ta = 25°C)

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	$I_G = \pm 100$ μA, $V_{DS} = 0$
Gate to source leak current	I_{GSS}	—	—	±10	μA	$V_{GS} = \pm 12$ 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		$I_D = -0.3$ A, $V_{GS} = -10$ V ^{*1}
Forward transfer admittance	$ y_{fs} $	0.3	0.45	—	S	$I_D = -0.3$ A, $V_{DS} = -20$ V ^{*1}
Input capacitance	Ciss	—	220	—	pF	$V_{DS} = -10$ V, $V_{GS} = 0$, f = 1 MHz
Output capacitance	Coss	—	55	—	pF	
Reverse transfer capacitance	Crss	—	13	—	pF	
Turn-on delay time	$t_{d(on)}$	—	7	—	ns	$I_D = -0.3$ A, $V_{GS} = -10$ V, $R_L = 100$
Rise time	t_r	—	20	—	ns	
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

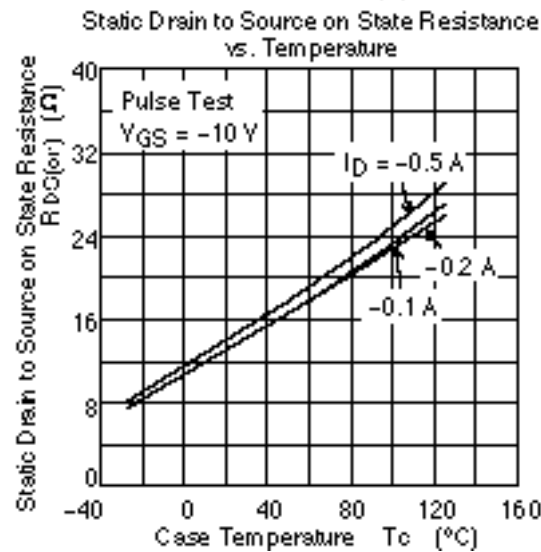
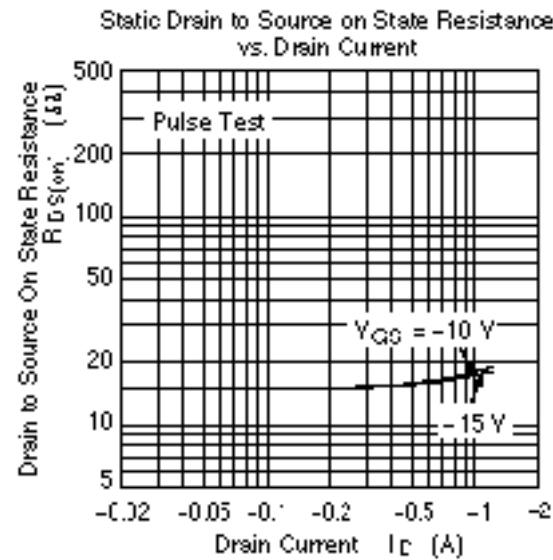
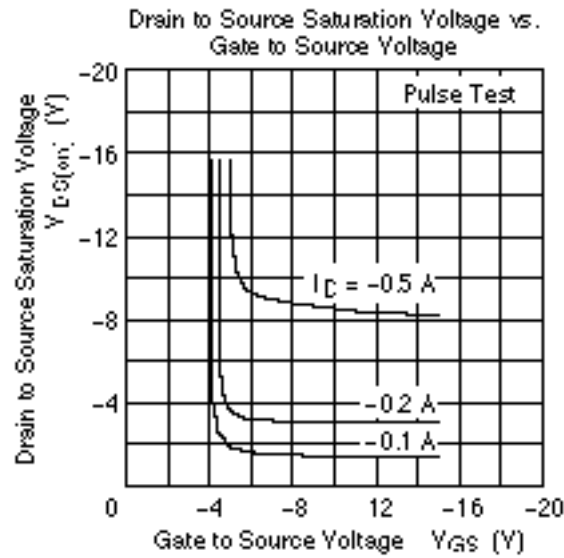
Note: 1. Pulse test



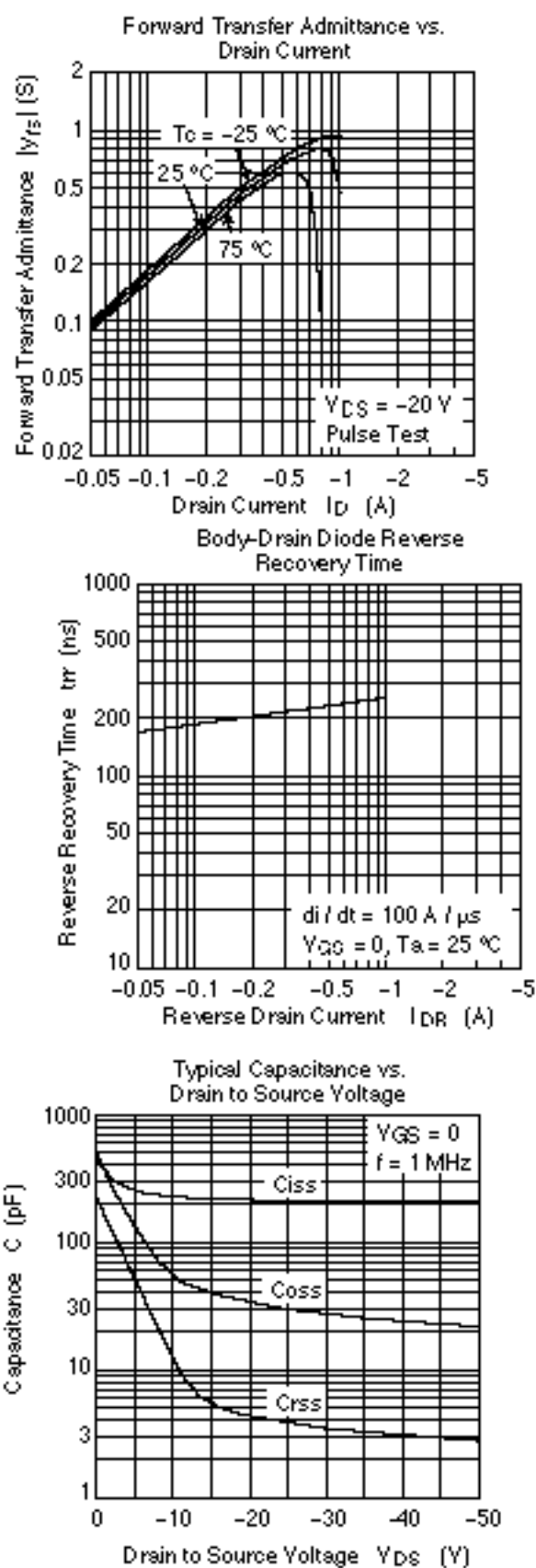
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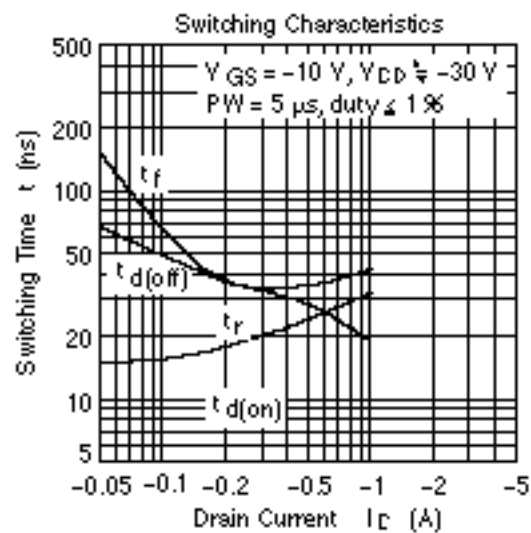
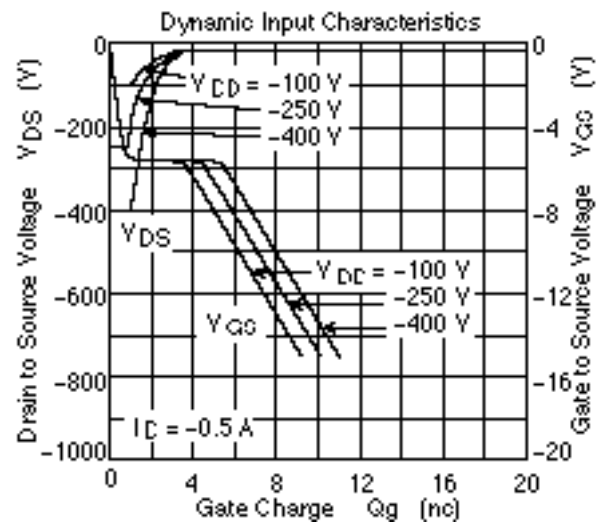
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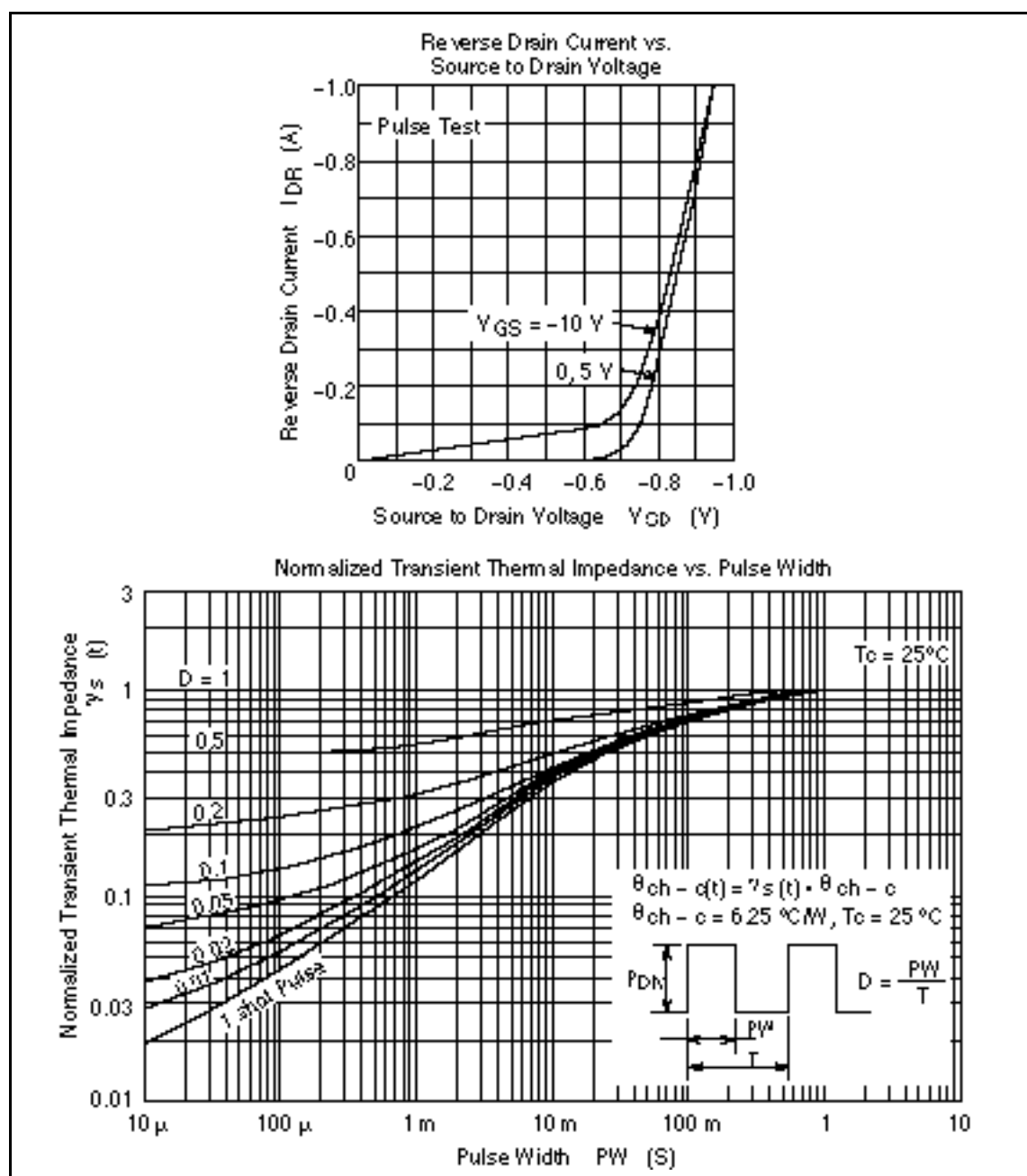
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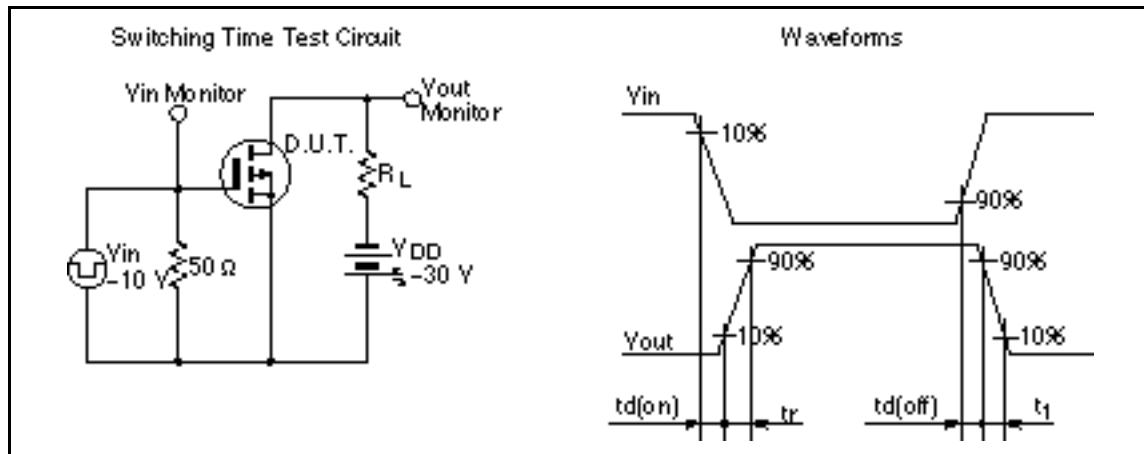
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