



H7P0601DL, H7P0601DS

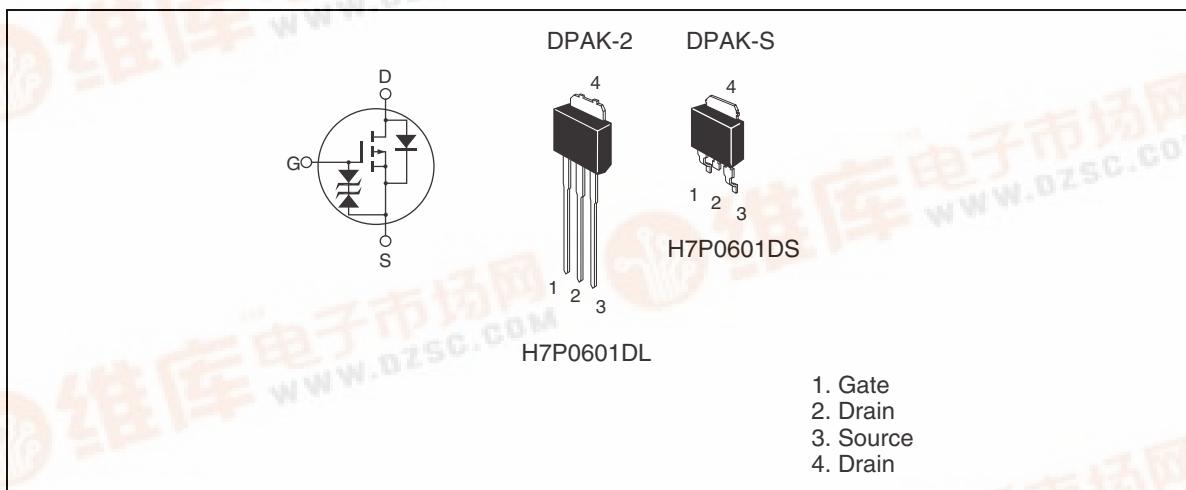
Silicon P Channel MOS FET
High Speed Power Switching

REJ03G0044-0100Z
Rev.1.00
Aug.05.2003

Features

- Low on-resistance
 $R_{DS(on)} = 40 \text{ m}\Omega \text{ typ.}$
- Low drive current
- 4.5 V gate drive device can driven from 5 V source

Outline



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Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Rating	Unit
Drain to source voltage	V _{DSS}	-60	V
Gate to source voltage	V _{GSS}	±20	V
Drain current	I _D	-20	A
Drain peak current	I _D (pulse) ^{Note1}	-80	A
Body-drain diode reverse drain current	I _{DR}	-20	A
Avalanche current	I _{AP} ^{Note3}	-12	A
Avalanche energy	E _{AR} ^{Note3}	12.3	mJ
Channel dissipation	P _{ch} ^{Note2}	25	W
Channel temperature	T _{ch}	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

Notes: 1. PW ≤ 10 µs, duty cycle ≤ 1%

2. Value at T_{ch} = 25°C

3. Value at T_{ch} = 25°C, R_g ≥ 50 Ω

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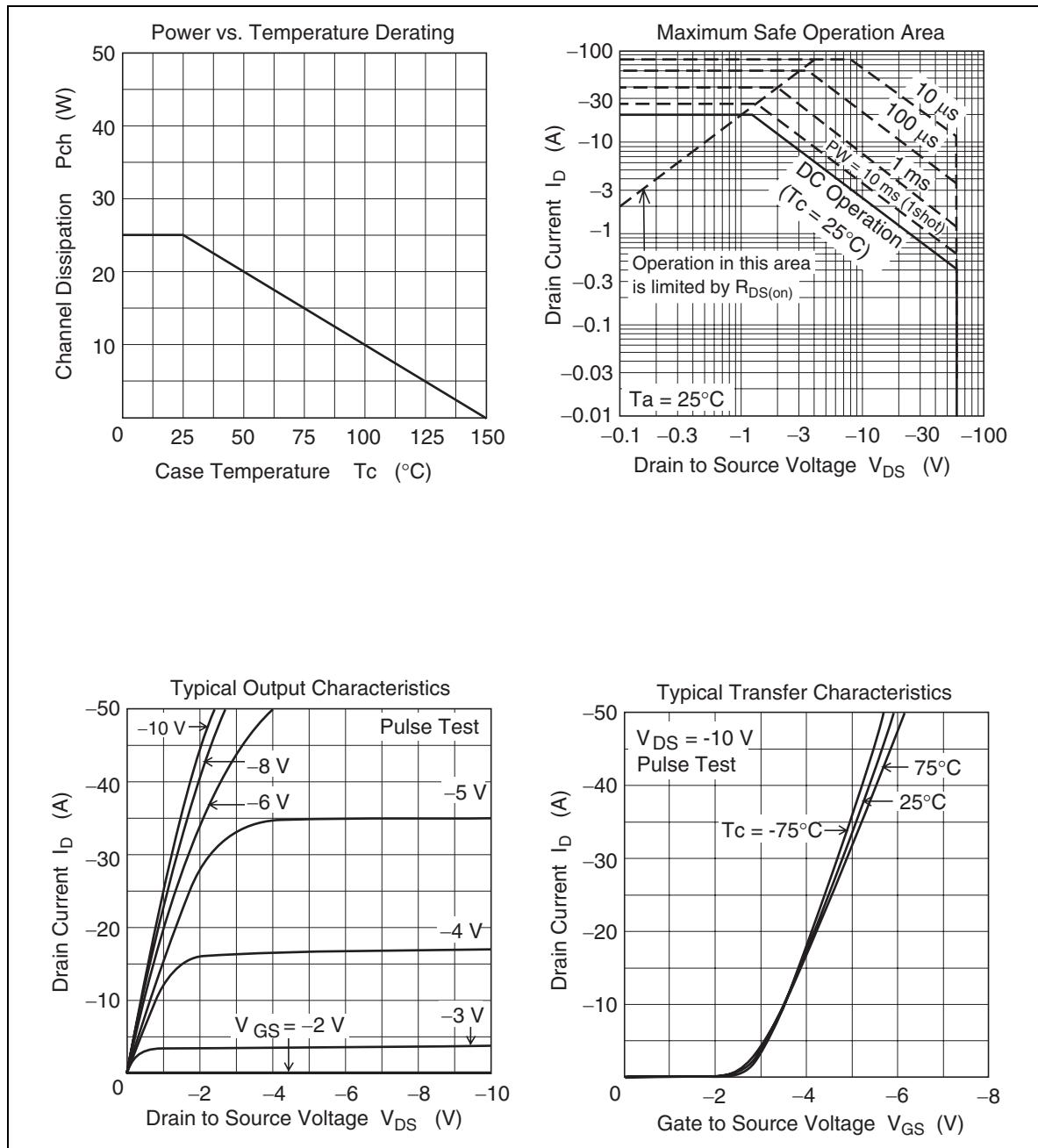
Electrical Characteristics

(Ta = 25°C)

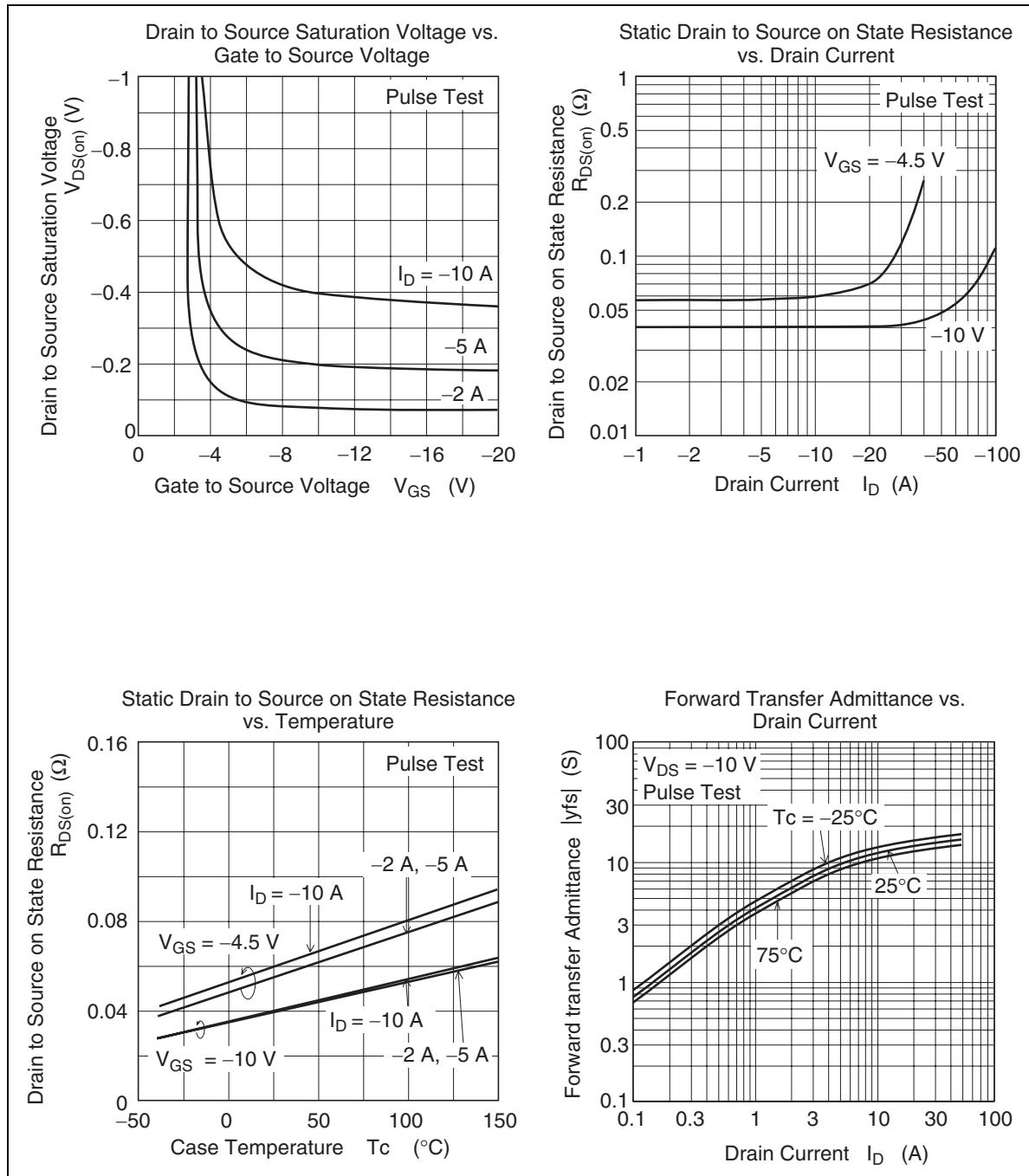
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	V _{(BR)DSS}	-60	—	—	V	I _D = -10 mA, V _{GS} = 0
Gate to source breakdown voltage	V _{(BR)GSS}	±20	—	—	V	I _G = ±100 μA, V _{DS} = 0
Gate to source leak current	I _{GSS}	—	—	±10	μA	V _{GS} = ±16 V, V _{DS} = 0
Zero gate voltage drain current	I _{DSS}	—	—	-10	μA	V _{DS} = -60 V, V _{GS} = 0
Gate to source cutoff voltage	V _{GS(off)}	-1.0	—	-2.5	V	I _D = -1 mA, V _{DS} = -10 V
Static drain to source on state resistance	R _{DS(on)}	—	40	50	mΩ	I _D = -10 A, V _{GS} = -10 V ^{Note1}
		—	60	85	mΩ	I _D = -5 A, V _{GS} = -4.5 V ^{Note1}
Forward transfer admittance	y _{fs}	7.2	12	—	S	I _D = -10 A, V _{DS} = -10 V ^{Note1}
Input capacitance	C _{iss}	—	2200	—	pF	V _{DS} = -10 V
Output capacitance	C _{oss}	—	220	—	pF	V _{GS} = 0 f = 1 MHz
Reverse transfer capacitance	C _{rss}	—	130	—	pF	
Total gate charge	Q _g	—	37	—	nC	V _{DD} = -25 V
Gate to source charge	Q _{gs}	—	6.5	—	nC	V _{GS} = -10 V
Gate to drain charge	Q _{gd}	—	8	—	nC	I _D = -20 A
Turn-on delay time	t _{d(on)}	—	25	—	ns	V _{GS} = -10 V, I _D = -10 A
Rise time	t _r	—	85	—	ns	R _L = 3.0 Ω
Turn-off delay time	t _{d(off)}	—	70	—	ns	R _g = 4.7 Ω
Fall time	t _f	—	15	—	ns	
Body-drain diode forward voltage	V _{DF}	—	0.95	—	V	I _F = -20 A, V _{GS} = 0
Body-drain diode reverse recovery time	t _{rr}	—	30	—	ns	I _F = -20 A, V _{GS} = 0 diF/dt = 100 A/μs

Note: 1. Pulse test

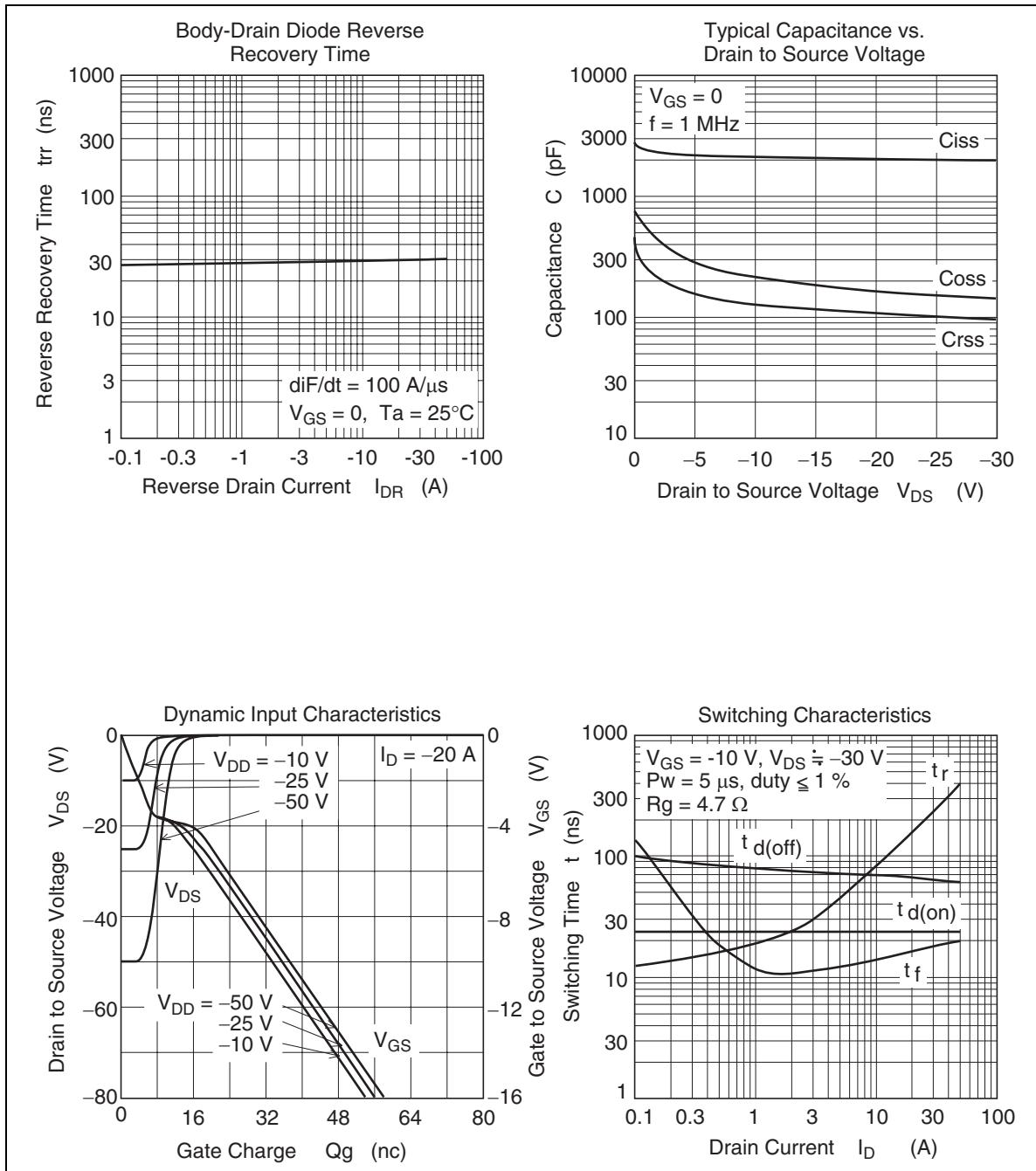
Main Characteristics



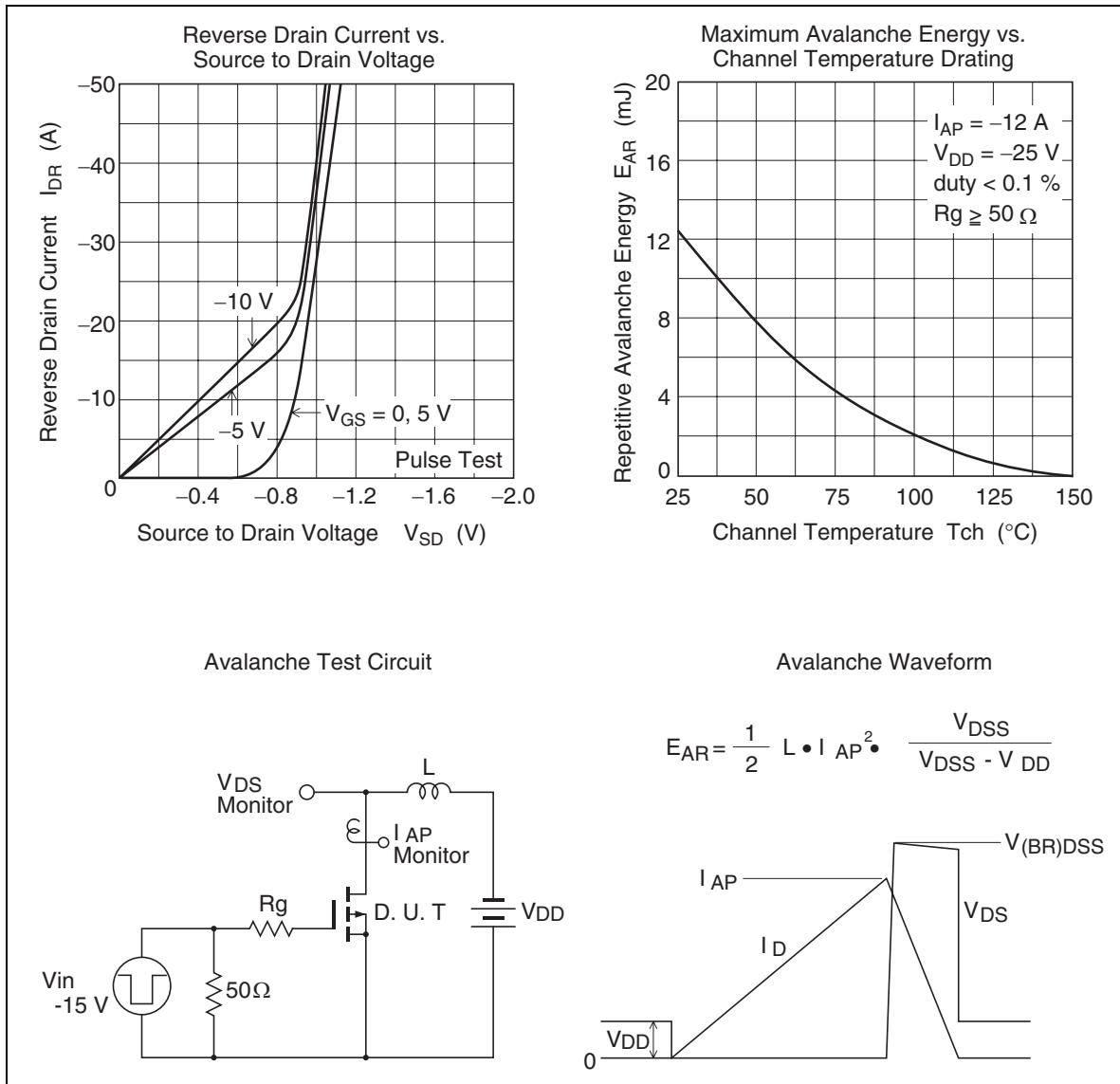
H7P0601DL, H7P0601DS



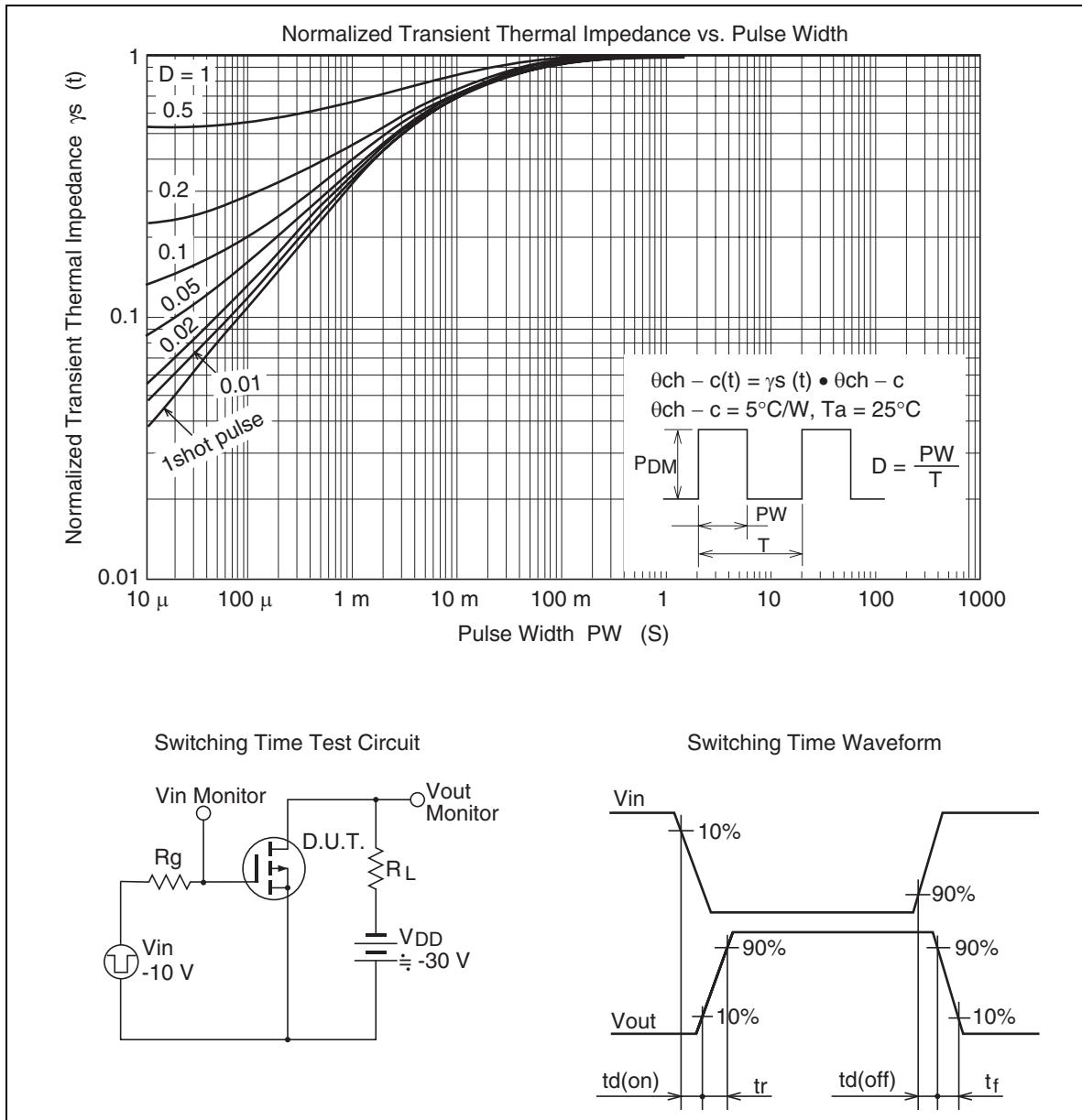
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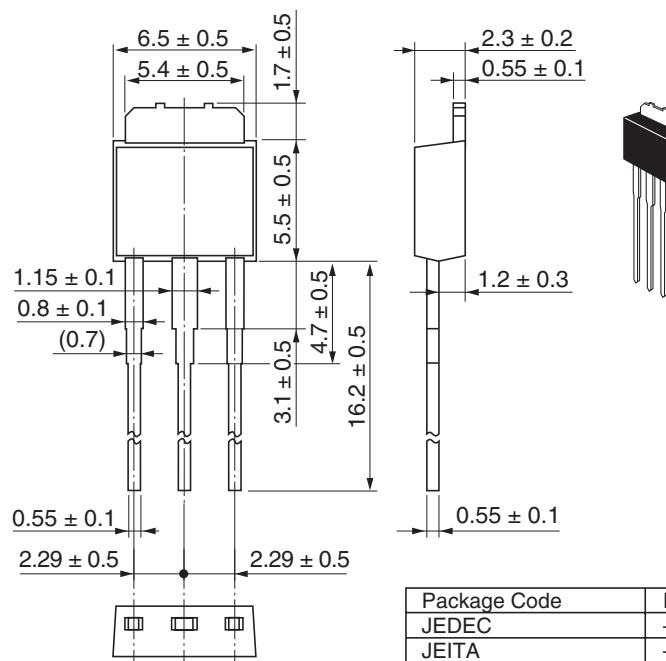


H7P0601DL, H7P0601DS

Package Dimensions

- H7P0601DL

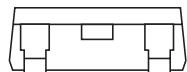
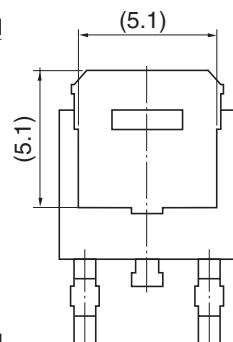
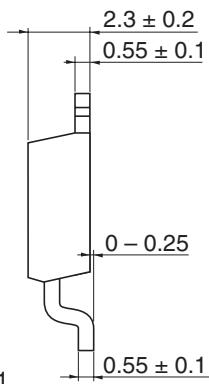
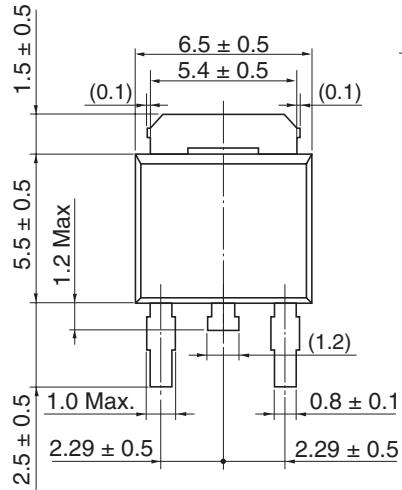
As of January, 2003
Unit: mm



H7P0601DL, H7P0601DS

- H7P0601DS

As of January, 2003
Unit: mm



Package Code	DPAK (S)
JEDEC	—
JEITA	Conforms
Mass (reference value)	0.28 g

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