

2SK2007

Silicon N-Channel MOS FET

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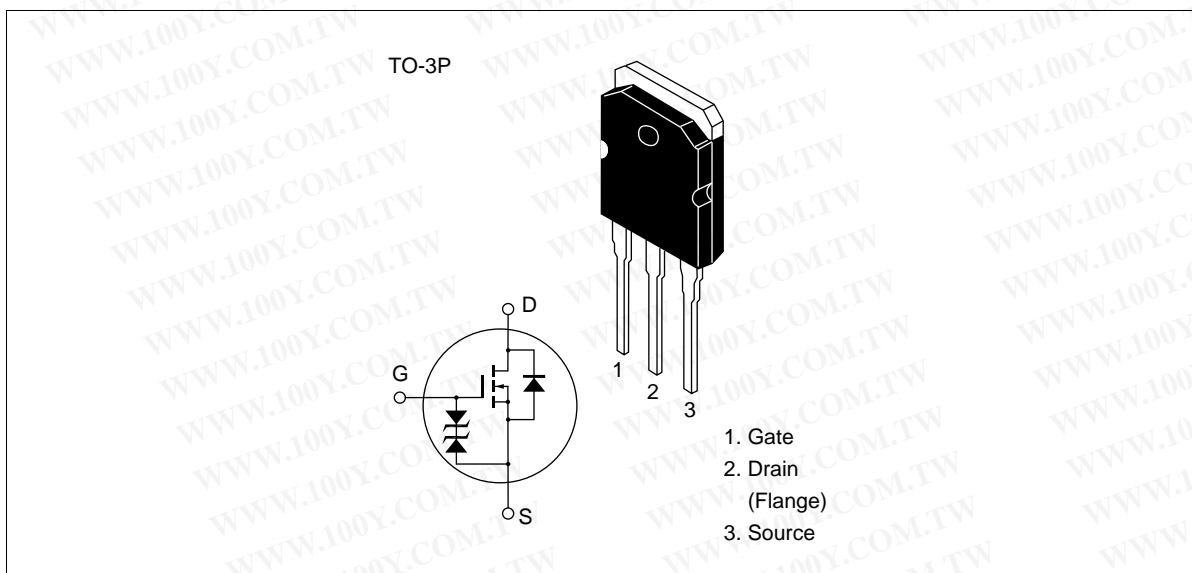
Application

High speed power switching

Features

- Low on-resistance
- High speed switching
- Low drive current
- No Secondary Breakdown
- Suitable for Switching regulator, DC - DC converter, Motor Control

Outline



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Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V _{DSS}	250	V
Gate to source voltage	V _{GSS}	±30	V
Drain current	I _D	20	A
Drain peak current	I _{D(pulse)} *1	80	A
Body to drain diode reverse drain current	I _{DR}	20	A
Channel dissipation	Pch*2	100	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

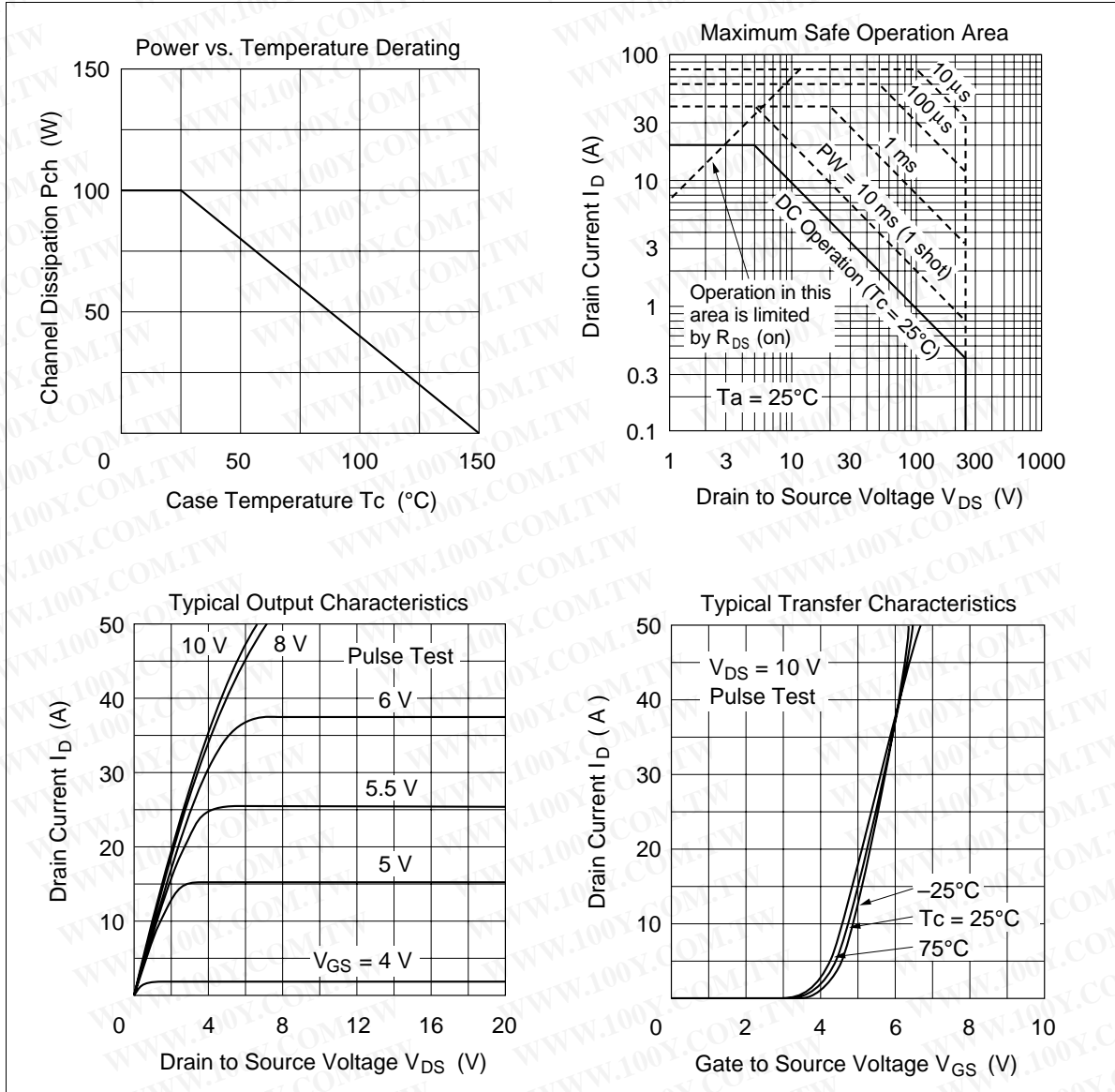
Notes 1. PW ≤ 10 μs, duty cycle ≤ 1 %
2. Value at Tc = 25°C

Electrical Characteristics (T_a = 25°C)

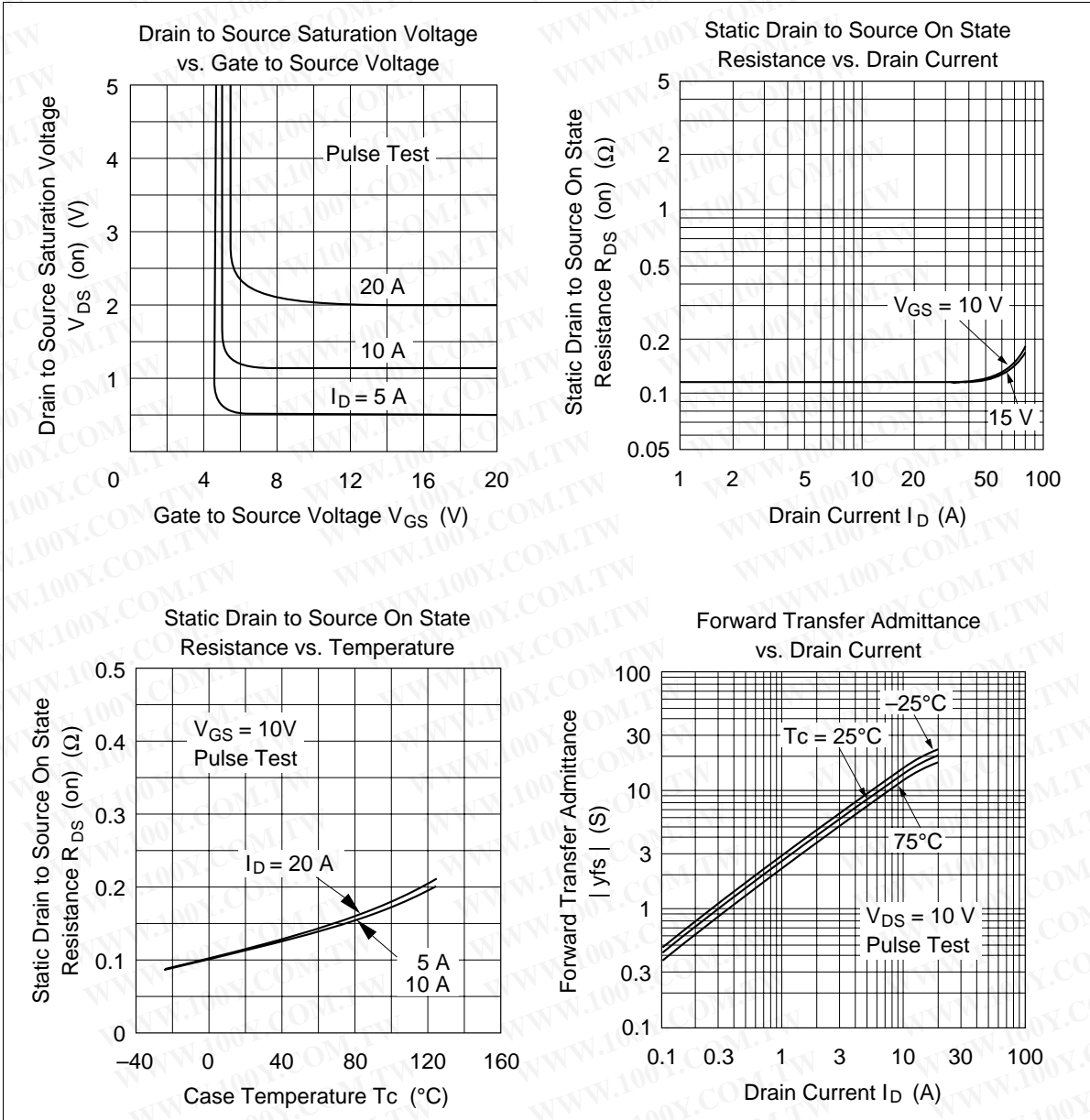
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	V _{(BR)DSS}	250	—	—	V	I _D = 10 mA, V _{GS} = 0
Gate to source breakdown voltage	V _{(BR)GSS}	±30	—	—	V	I _G = ±100 μA, V _{DS} = 0
Gate to source leak current	I _{GSS}	—	—	±10	μA	V _{GS} = ±25 V, V _{DS} = 0
Zero gate voltage drain current	I _{DSS}	—	—	250	μA	V _{DS} = 200 V, V _{GS} = 0
Gate to source cutoff voltage	V _{GS(off)}	2.0	—	3.0	V	I _D = 1 mA, V _{DS} = 10 V
Static drain to source on state resistance	R _{DS(on)}	—	0.12	0.15	Ω	I _D = 10 A V _{GS} = 10 V*1
Forward transfer admittance	y _{fs}	9.0	14	—	S	I _D = 10 A V _{DS} = 10 V*1
Input capacitance	C _{iss}	—	2340	—	pF	V _{DS} = 10 V
Output capacitance	C _{oss}	—	1000	—	pF	V _{GS} = 0
Reverse transfer capacitance	C _{rss}	—	160	—	pF	f = 1 MHz
Turn-on delay time	t _{d(on)}	—	30	—	ns	I _D = 10 A
Rise time	t _r	—	125	—	ns	V _{GS} = 10 V
Turn-off delay time	t _{d(off)}	—	190	—	ns	R _L = 3 Ω
Fall time	t _f	—	100	—	ns	
Body to drain diode forward voltage	V _{DF}	—	1.2	—	V	I _F = 20 A, V _{GS} = 0
Body to drain diode reverse recovery time	t _{rr}	—	120	—	ns	I _F = 20 A, V _{GS} = 0, di _F / dt = 100 A / μs

Note 1. Pulse Test

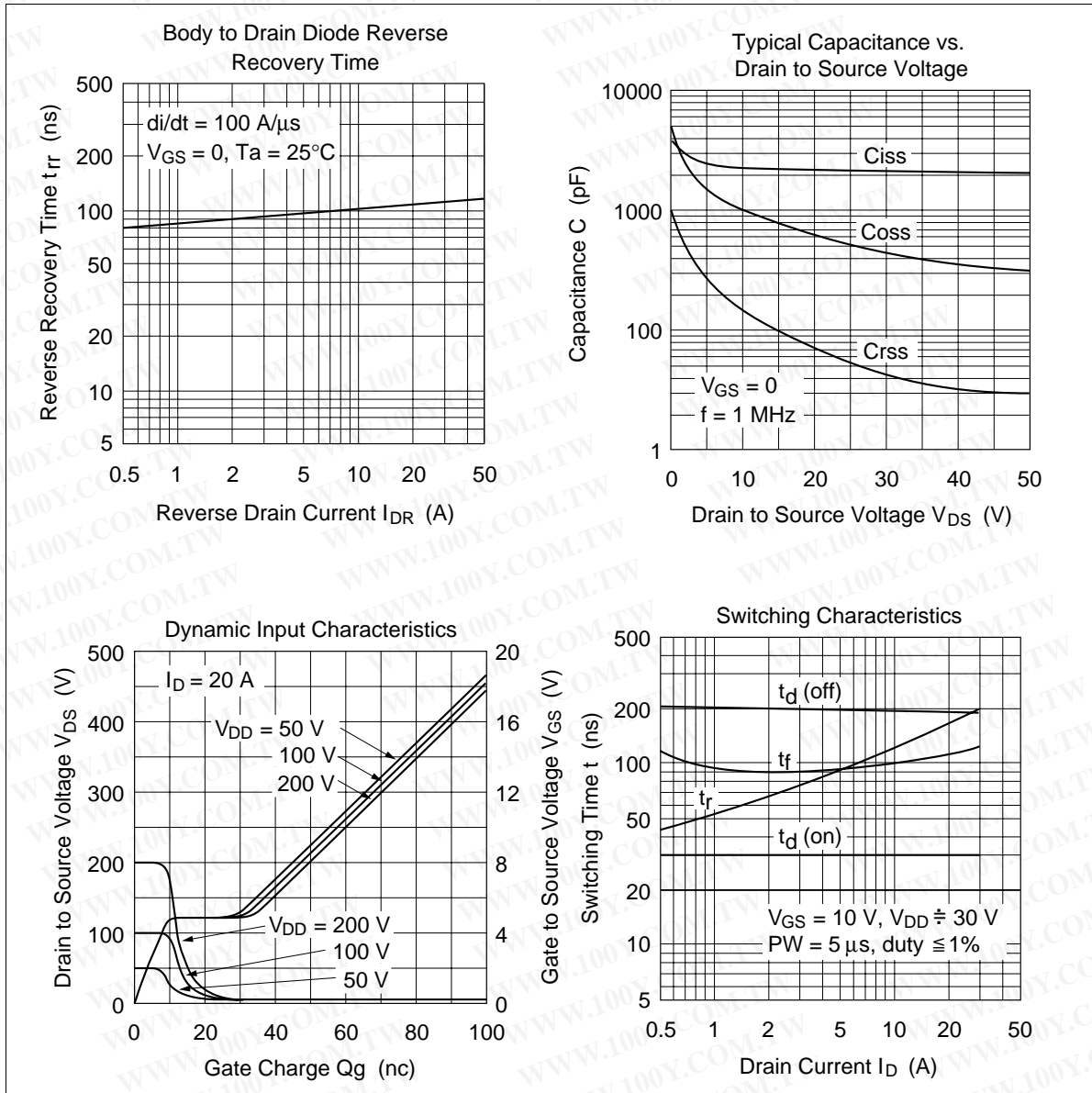
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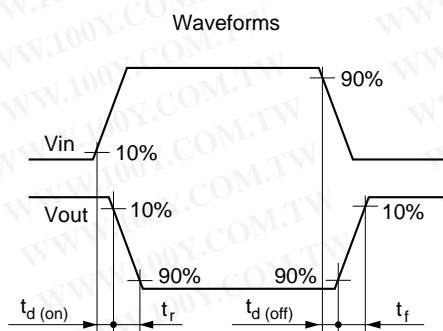
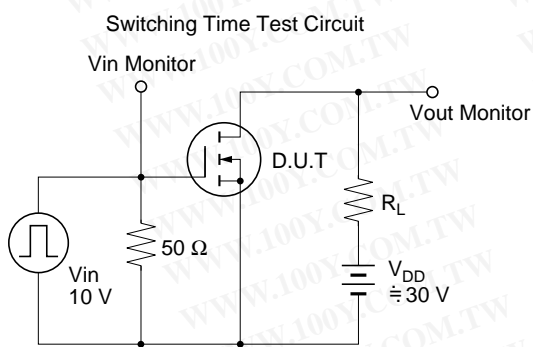
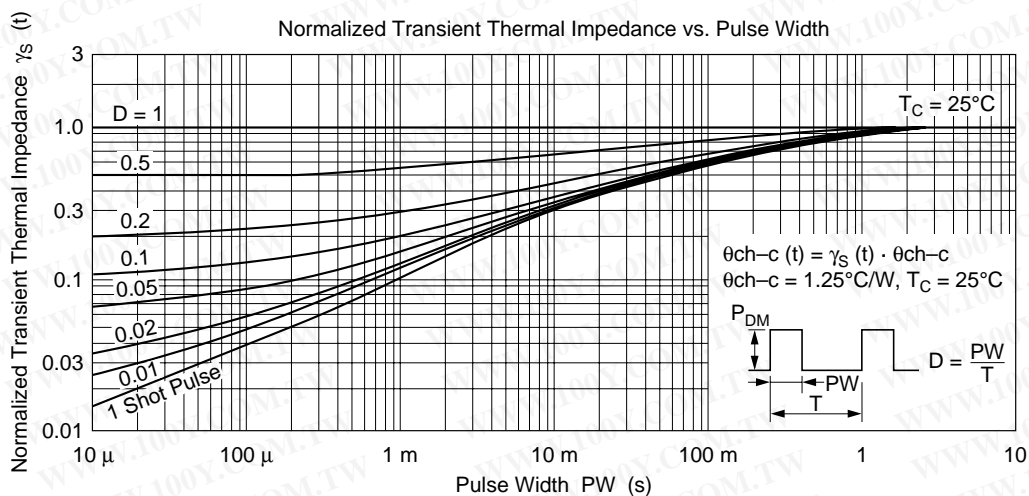
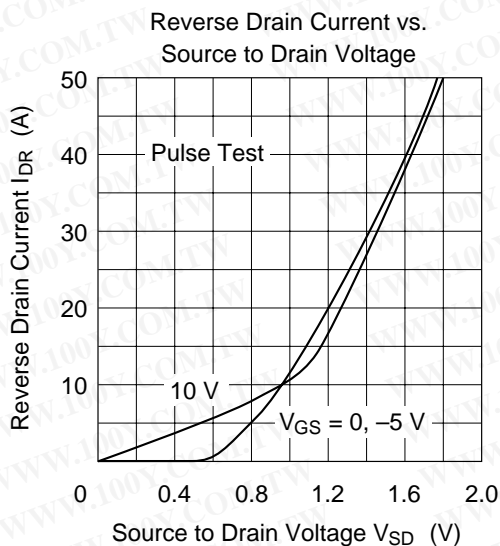
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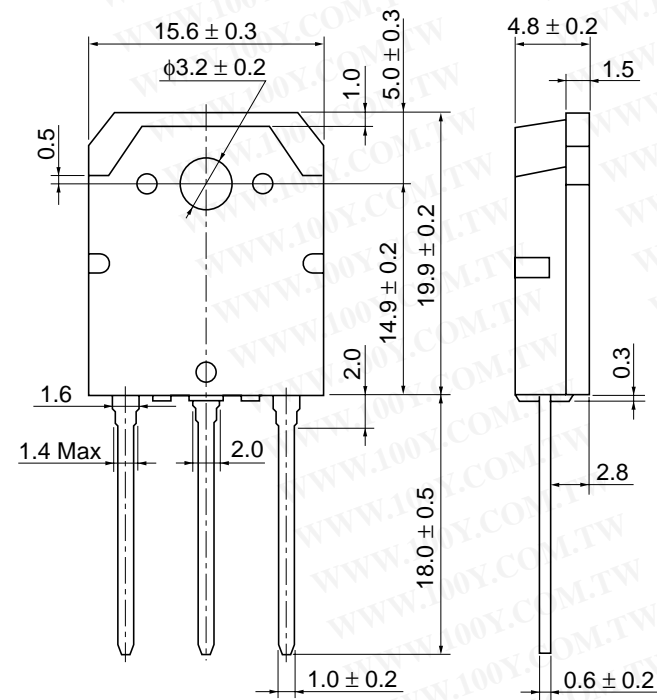


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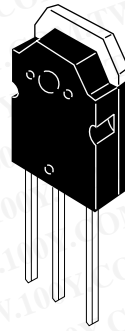


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Unit: mm



Hitachi Code	TO-3P
JEDEC	—
EIAJ	Conforms
Weight (reference value)	5.0 g

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