
2SJ450

Silicon P-Channel MOS FET

HITACHI

ADE-208-381
1st. Edition

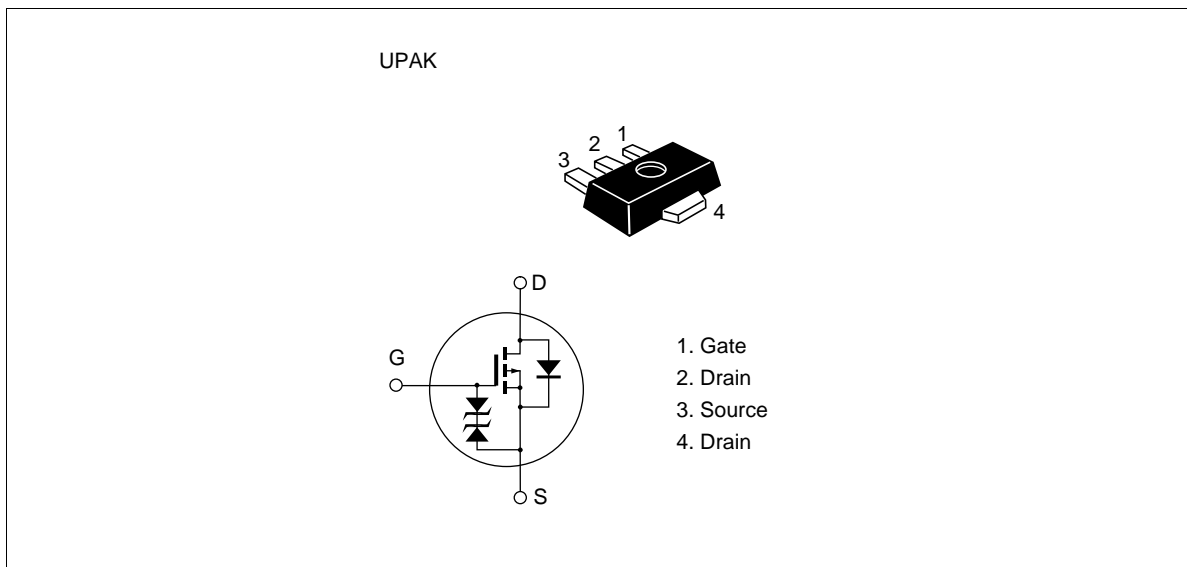
Application

High speed power switching

Features

- Low on-resistance.
- Low drive power
- High speed switching
- 2.5 V gate drive device.

Outline



2SJ450

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V _{DSS}	-60	V
Gate to source voltage	V _{GSS}	±20	V
Drain current	I _D	-1	A
Drain peak current	I _{D(pulse)} ^{*1}	-2	A
Drain peak current	I _{DR}	-1	A
Channel dissipation	Pch ^{*2}	1	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

Notes: 1. PW ≤ 100 μs, duty cycle ≤ 10%

2. When using aluminium ceramic board (12.5 × 20 × 70 mm)

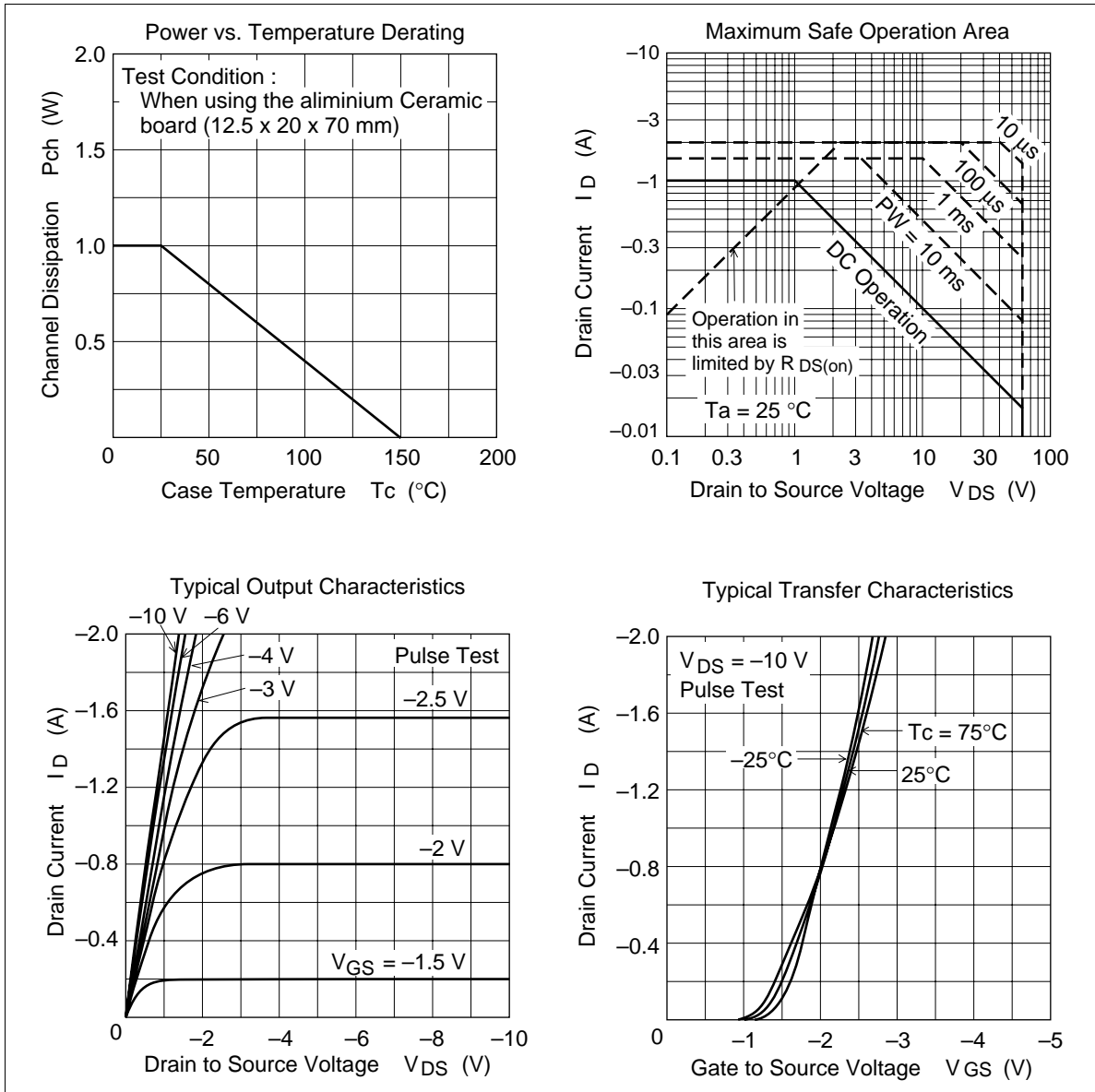
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	-60	—	—	V	$I_D = -10 \text{ mA}, V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR)GSS}$	± 20	—	—	V	$I_G = \pm 100 \text{ }\mu\text{A}, V_{DS} = 0$
Zero gate voltage drain current	I_{DSS}	—	—	-50	μA	$V_{DS} = -50 \text{ V}, V_{GS} = 0$
Gate to source leak current	I_{GSS}	—	—	± 10	μA	$V_{GS} = \pm 16 \text{ V}, V_{DS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	-0.5	—	-1.5	V	$V_{DS} = -10 \text{ V}, I_D = -1 \text{ mA}$
Static drain to source on state resistance	$R_{DS(on)}$	—	0.85	1.2	Ω	$I_D = -0.5 \text{ A}$ $V_{GS} = -4 \text{ V}^{*1}$
Static drain to source on state resistance	$R_{DS(on)}$	—	1.1	1.9	Ω	$I_D = -0.3 \text{ A}$ $V_{GS} = -2.5 \text{ V}^{*1}$
Fowerd transfer admittance	$ y_{fs} $	0.6	1.0	—	S	$I_D = -0.5 \text{ A}$ $V_{DS} = -10 \text{ V}$
Input capacitance	C_{iss}	—	150	—	pF	$V_{DS} = -10 \text{ V}$
Output capacitance	C_{oss}	—	72	—	pF	$V_{GS} = 0$
Reverse transfer capacitance	C_{rss}	—	24	—	pF	$f = 1 \text{ MHz}$
Turn-on delay time	$t_{d(on)}$	—	6	—	ns	$V_{GS} = -10 \text{ V}, I_D = -0.5 \text{ A}$
Rise time	t_r	—	9	—	ns	$R_L = 60 \text{ }\Omega$
Turn-off delay time	$t_{d(off)}$	—	50	—	ns	
Fall time	t_f	—	35	—	ns	
Body to drain diode forward voltage	V_{DF}	—	-0.9	—	V	$I_F = -1 \text{ A}, V_{GS} = 0$
Body to drain diode reverse recovery time	t_{rr}	—	100	—	ns	$I_F = -1 \text{ A}, V_{GS} = 0$ $diF/dt = 50 \text{ A}/\mu\text{s}$

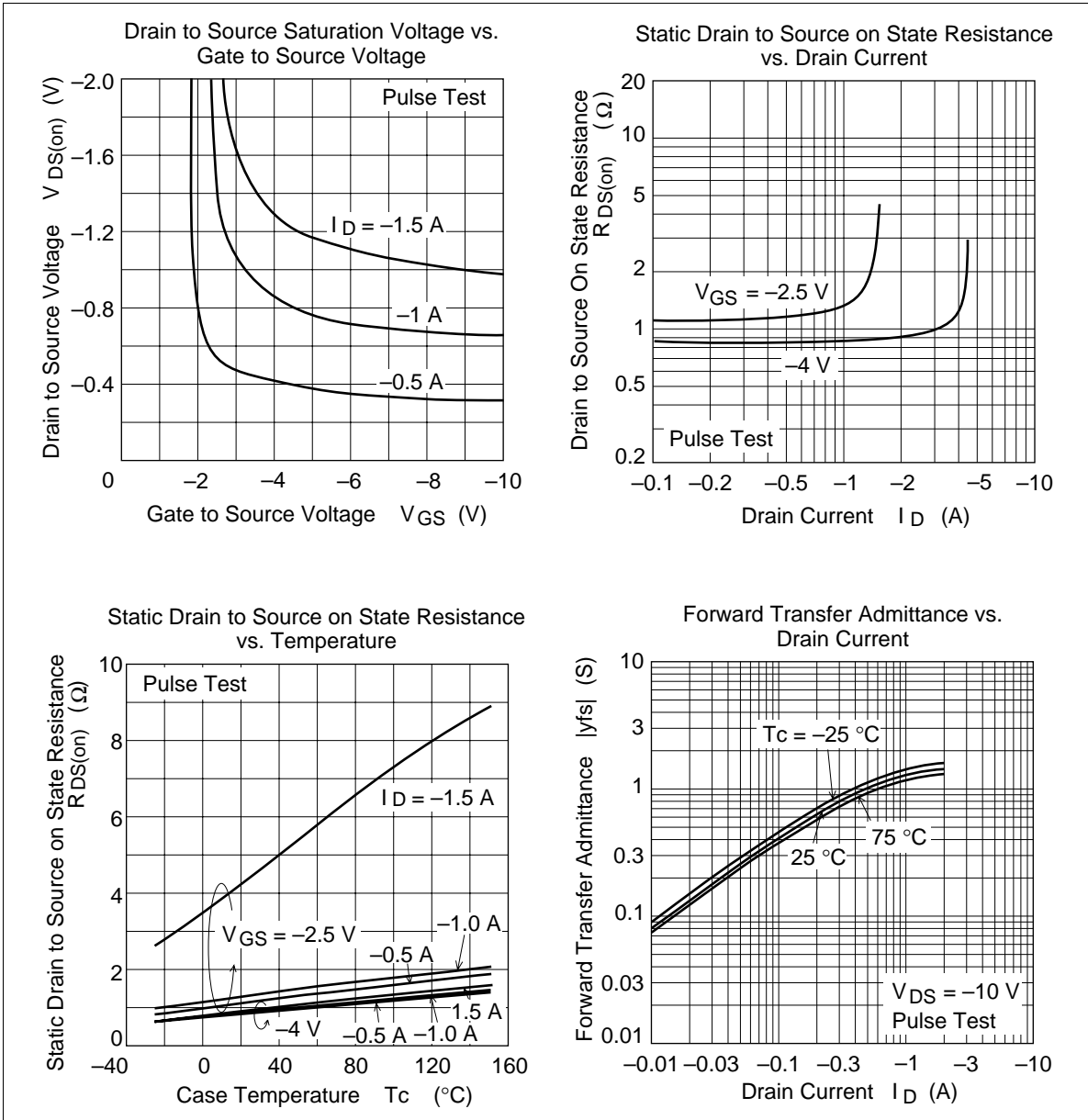
Note: 1. Pulse Test

Marking is "UY".

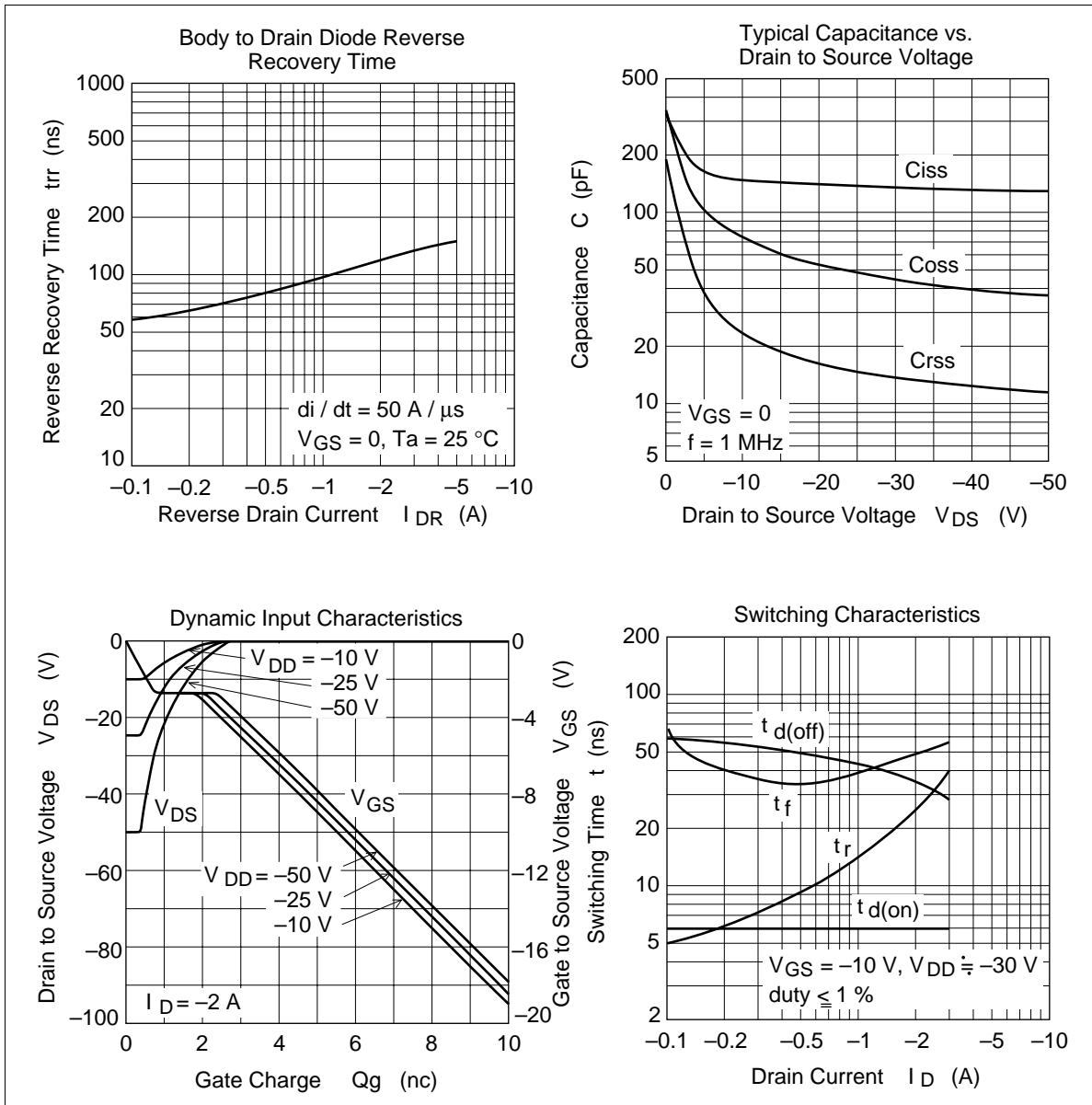
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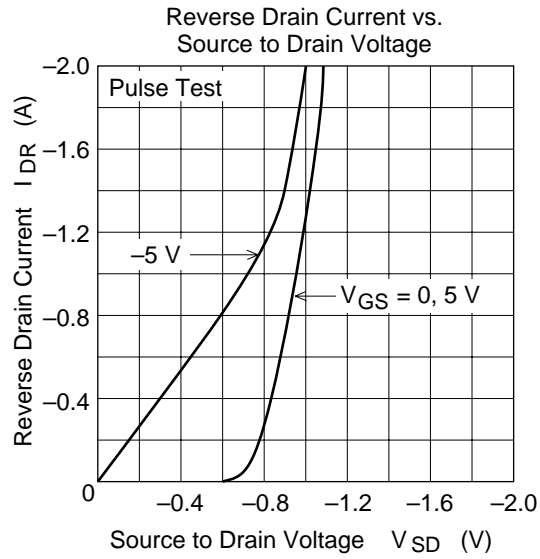
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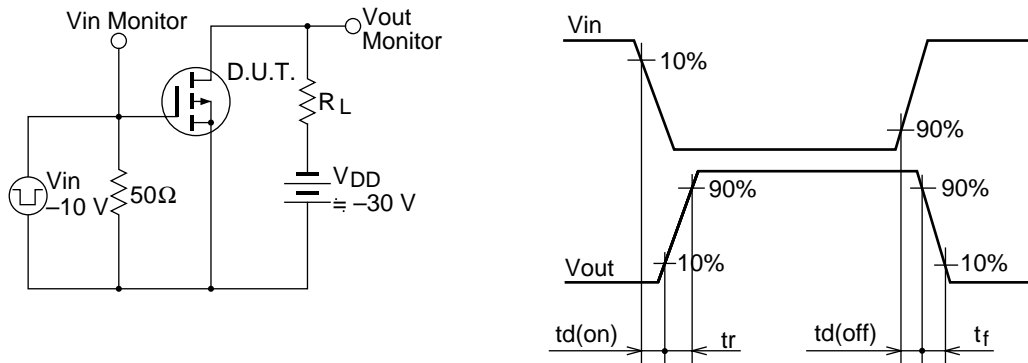
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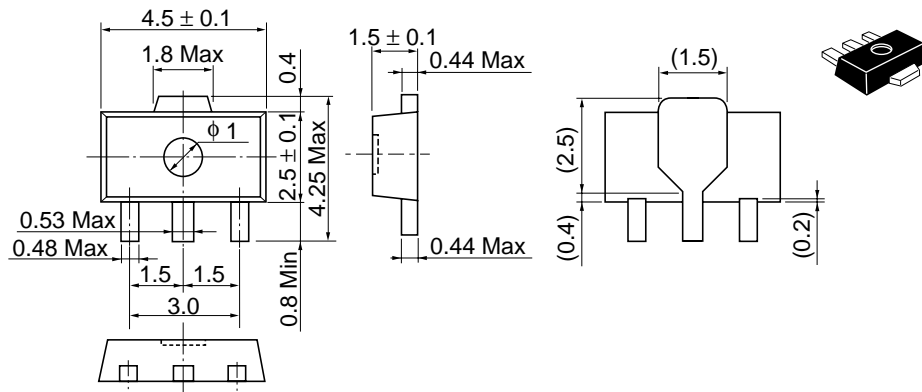
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Avalanche Test Circuit and Waveform



Unit: mm



Hitachi Code	UPAK
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.050 g

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