

2SK3348

Silicon N Channel MOS FET
High Speed Switching

HITACHI

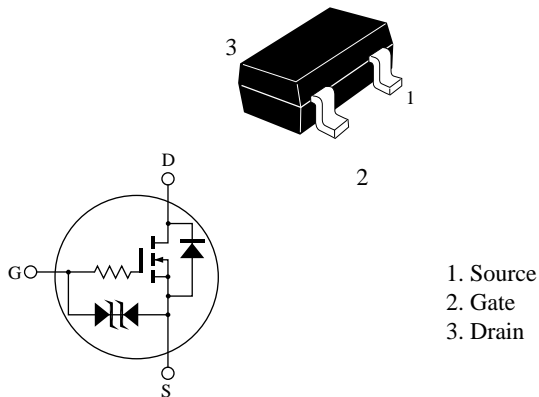
ADE-208-772 A (Z)
2nd.Edition.
June 1999

Features

- Low on-resistance
 $R_{DS} = 1.6$ typ. ($V_{GS} = 4$ V , $I_D = 50$ mA)
 $R_{DS} = 2.2$ typ. ($V_{GS} = 2.5$ V , $I_D = 50$ mA)
- 2.5 V gate drive device.
- Small package (CMPAK)

Outline

CMPAK



Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V_{DSS}	20	V
Gate to source voltage	V_{GSS}	±10	V
Drain current	I_D	100	mA
Drain peak current	$I_{D(pulse)}$ ^{Note 1}	400	mA
Body-drain diode reverse drain current	I_{DR}	100	mA
Channel dissipation	Pch ^{Note 2}	300	mW
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

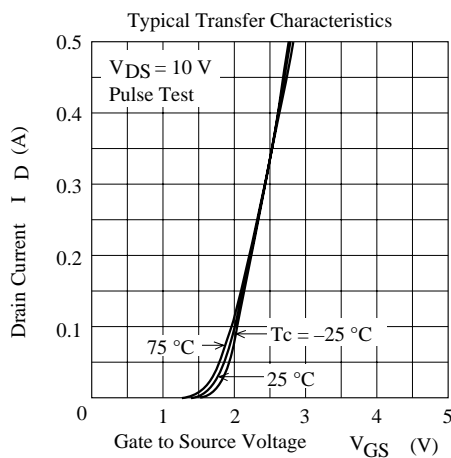
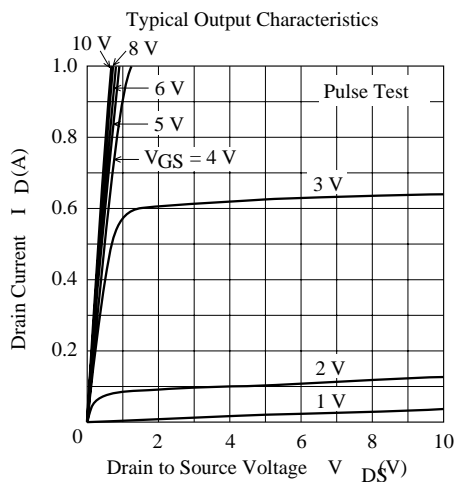
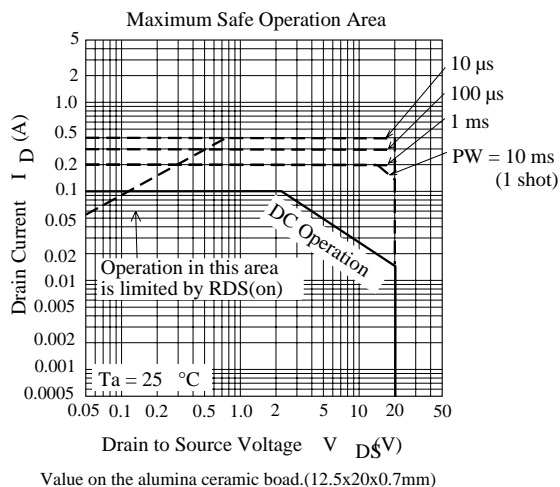
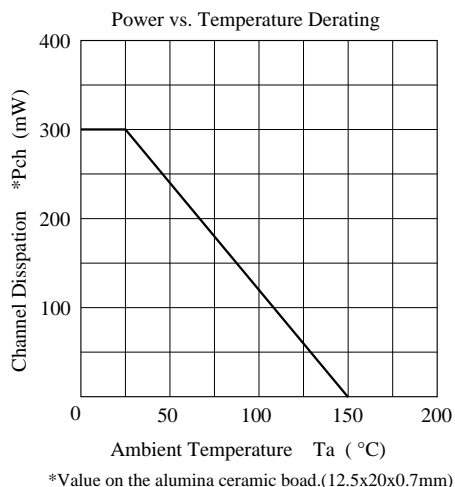
Note: 1. PW ≤ 10 μs, duty cycle ≤ 1%
 2. Value on the alumina ceramic board (12.5x20x0.7mm)

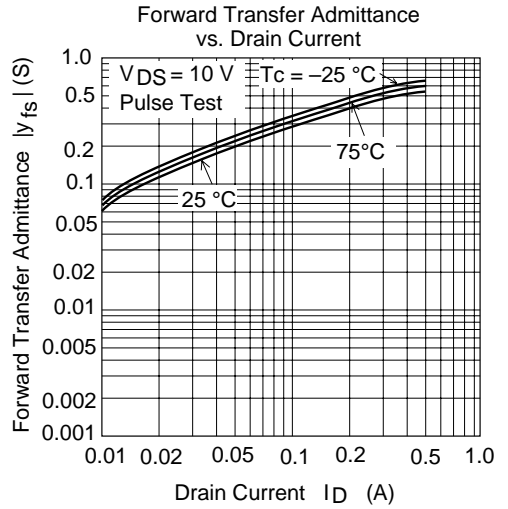
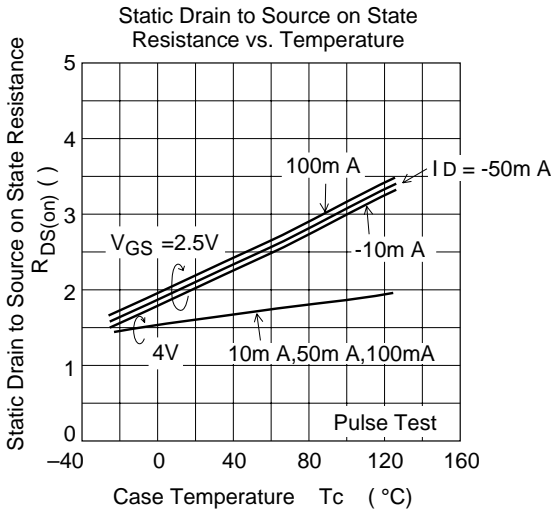
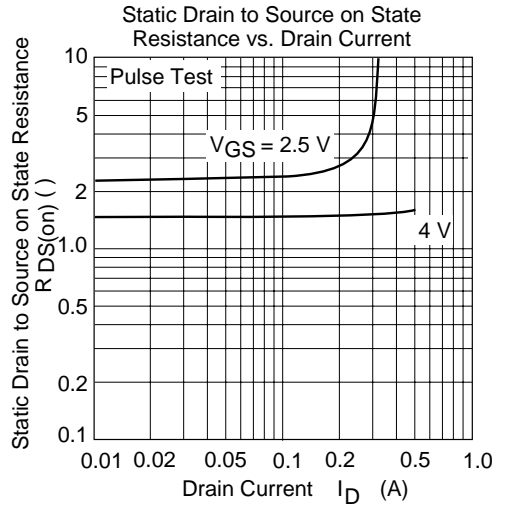
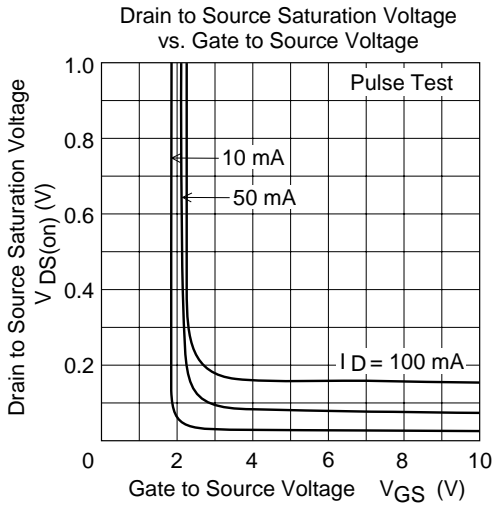
Electrical Characteristics (Ta = 25°C)

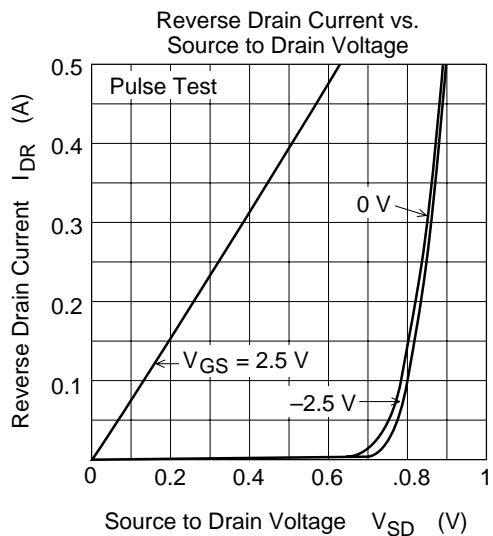
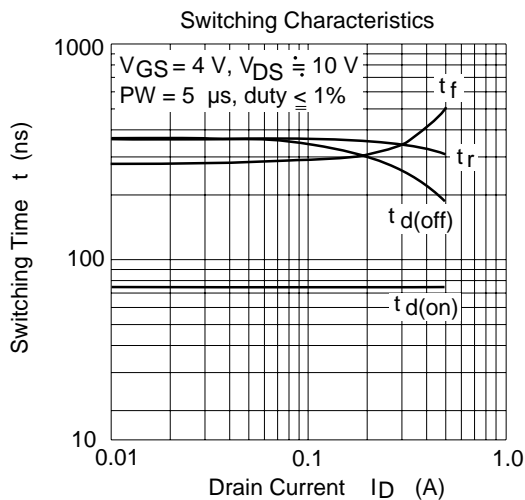
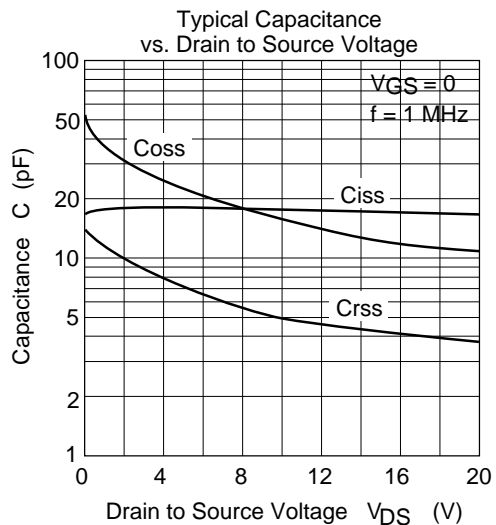
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	20	—	—	V	$I_D = 100 \mu A, V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR)GSS}$	±10	—	—	V	$I_G = \pm 100 \mu A, V_{DS} = 0$
Gate to source leak current	I_{GSS}	—	—	±5	μA	$V_{GS} = \pm 8 V, V_{DS} = 0$
Zero gate voltage drain current	I_{DSS}	—	—	1	μA	$V_{DS} = 20 V, V_{GS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	0.8	—	1.8	V	$I_D = 10 \mu A, V_{DS} = 5 V$
Static drain to source on state resistance	$R_{DS(on)}$	—	1.6	1.9	Ω	$I_D = 50 mA, V_{GS} = 4 V$ ^{Note 3}
	$R_{DS(on)}$	—	2.2	3.2	Ω	$I_D = 50 mA, V_{GS} = 2.5 V$ ^{Note 3}
Forward transfer admittance	$ y_{fs} $	143	220	—	mS	$I_D = 50 mA, V_{DS} = 10 V$ ^{Note 3}
Input capacitance	Ciss	—	18	—	pF	$V_{DS} = 10 V$
Output capacitance	Coss	—	15	—	pF	$V_{GS} = 0$
Reverse transfer capacitance	Crss	—	5	—	pF	f = 1 MHz
Turn-on delay time	$t_{d(on)}$	—	73	—	ns	$I_D = 50 mA, V_{GS} = 4 V$
Rise time	t_r	—	290	—	ns	$R_L = 200 \Omega$
Turn-off delay time	$t_{d(off)}$	—	360	—	ns	
Fall time	t_f	—	360	—	ns	

Note: 3. Pulse test
 4. Marking is CN

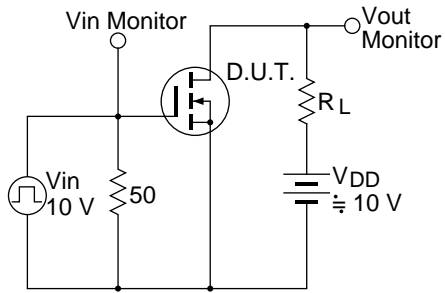
Main Characteristics



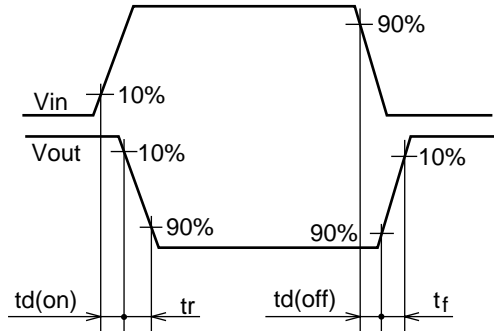




Switching Time Test Circuit



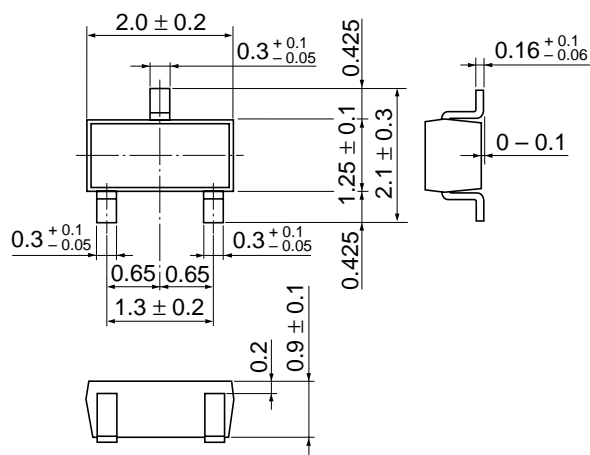
Waveforms



Package Dimensions

As of January, 2001

Unit: mm



Hitachi Code	CMPAK
JEDEC	—
EIAJ	Conforms
Mass (reference value)	0.006 g

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