HAT2085R

Silicon N Channel MOS FET
High Speed Power Switching

HITACHI

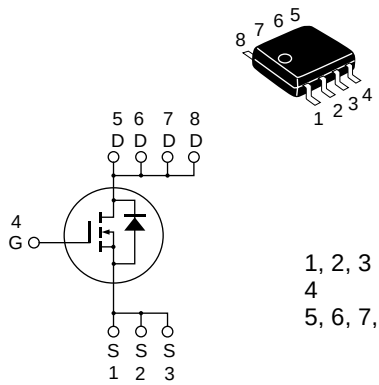
ADE-208-1232 (Z)
Target Specification 1st. Edition
Dec. 2000

Features

- Low on-resistance
- Low drive current
- High density mounting

Outline

SOP–8



1, 2, 3	Source
4	Gate
5, 6, 7, 8	Drain

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Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V_{DSS}	200	V
Gate to source voltage	V_{GSS}	±30	V
Drain current	I_D	(2)	A
Drain peak current	$I_{D(pulse)}$ Note1	(16)	A
Body-drain diode reverse drain current	I_{DR}	(2)	A
Channel dissipation	Pch Note2	2.5	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	–55 to +150	°C

Note: 1. PW ≤ 10µs, duty cycle ≤ 1 %
2. When using the glass epoxy board (FR4 40 x 40 x 1.6 mm), PW 10s

Electrical Characteristics (Ta = 25°C)

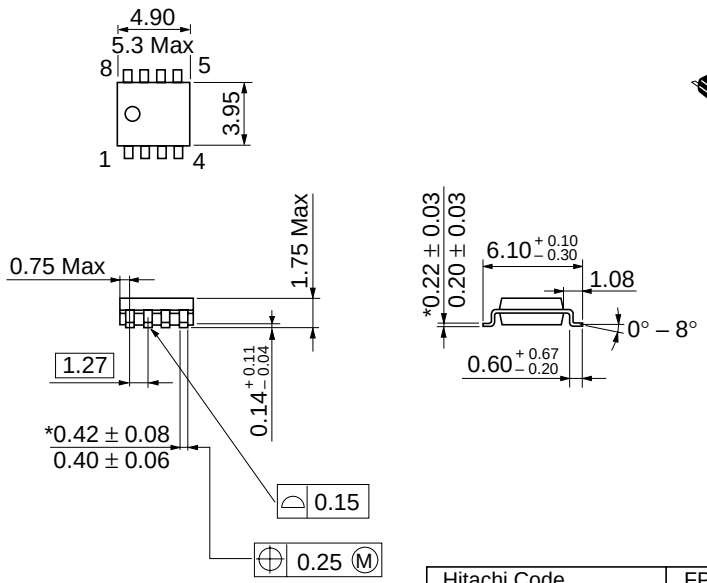
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	200	—	—	V	I_D = 10mA, V_{GS} = 0
Gate to source leak current	I_{GSS}	—	—	±0.1	µA	V_{GS} = ±30V, V_{DS} = 0
Zero gate voltege drain current	I_{DSS}	—	—	1	µA	V_{DS} = 200 V, V_{GS} = 0
Gate to source cutoff voltage	$V_{GS(off)}$	(3.0)	—	(4.5)	V	I_D = 1mA, V_{DS} = 10V
Static drain to source on state resistance	$R_{DS(on)}$	—	(0.49)	(0.64)	Ω	I_D = 1A, V_{GS} = 10V Note3
Forward transfer admittance	$\|y_{fs}\|$	(1.2)	(2.0)	—	S	I_D = 1A, V_{DS} = 10V Note3
Input capacitance	Ciss	—	(300)	—	pF	V_{DS} = 25V
Output capacitance	Coss	—	(43)	—	pF	V_{GS} = 0
Reverse transfer capacitance	Crss	—	(12)	—	pF	f = 1MHz
Turn-on delay time	$t_{d(on)}$	—	(20)	—	ns	V_{DD} ≅ 100V, I_D = 1A
Rise time	t_r	—	(10)	—	ns	V_{GS} = 10V
Turn-off delay time	$t_{d(off)}$	—	(50)	—	ns	R_L = 100Ω
Fall time	t_f	—	(10)	—	ns	R_g = 10Ω
Total gate charge	Qg	—	(10)	—	nC	V_{DD} = 160V
Gate to source charge	Qgs	—	(2)	—	nC	V_{GS} = 10V
Gate to drain charge	Qgd	—	(5)	—	nC	I_D = 2A
Body–drain diode forward voltage	V_{DF}	—	(0.8)	(1.2)	V	I_F = 2A, V_{GS} = 0 Note3
Body–drain diode reverse recovery time	t_{rr}	—	(75)	—	ns	I_F = 2A, V_{GS} = 0 diF/ dt =100A/µs

Note: 3. Pulse test

Package Dimensions

As of January, 2001

Unit: mm



*Dimension including the plating thickness
Base material dimension

Hitachi Code	FP-8DA
JEDEC	Conforms
EIAJ	—
Mass (reference value)	0.085 g

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