

HAT2005F

Silicon N Channel Power MOS FET

Application

Power switching

Features

- Low on-resistance
- Capable of 2.5V gate drive
- Low drive current
- High density mounting

Ordering Information

Hitachi Cord	FP-8D
EIAJ Cord	SC-527-8A
JEDEC Cord	—

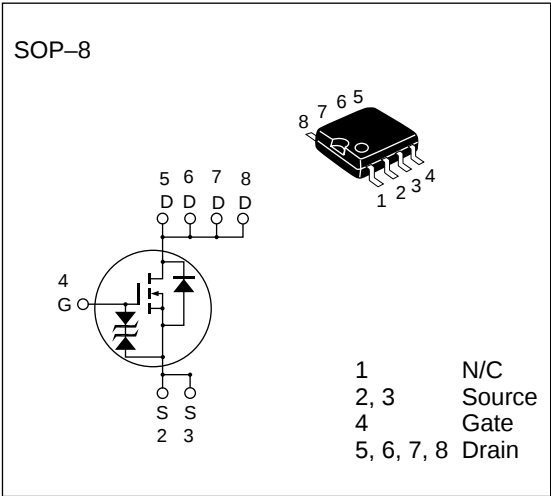


Table 1 Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V_{DSS}	20	V
Gate to source voltage	V_{GSS}	±10	V
Drain current	I_D	3.5	A
Drain peak current	$I_{D(pulse)}^*$	14	A
Body-drain diode reverse drain current	I_{DR}	3.5	A
Channel dissipation	P_{ch}^{**}	1	W
Channel temperature	T_{ch}	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

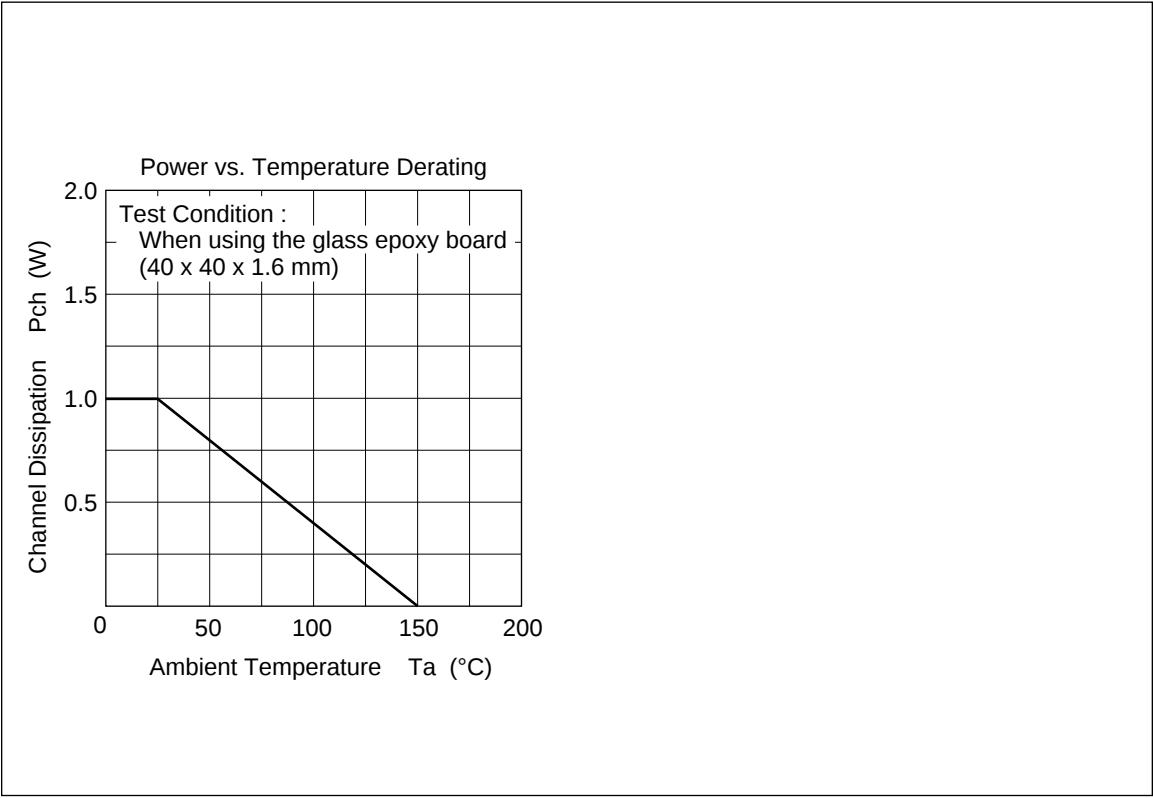
* $PW \leq 10 \mu s$, duty cycle $\leq 1 \%$

** When using the glass epoxy board (40 x 40 x 1.6 mm)

Table 2 Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	20	—	—	V	$I_D = 10 \text{ mA}$, $V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR)GSS}$	± 10	—	—	V	$I_G = \pm 200 \text{ }\mu\text{A}$, $V_{DS} = 0$
Gate to source leak current	I_{GSS}	—	—	± 10	μA	$V_{GS} = \pm 6.5 \text{ V}$, $V_{DS} = 0$
Zero gate voltage drain current	I_{DSS}	—	—	10	μA	$V_{DS} = 20 \text{ V}$, $V_{GS} = 0$
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	$R_{DS(on)}$	—	0.05	0.065	Ω	$I_D = 2 \text{ A}$ $V_{GS} = 4 \text{ V}^*$
		—	0.06	0.09	Ω	$I_D = 2 \text{ A}$ $V_{GS} = 2.5 \text{ V}^*$
Forward transfer admittance	$ y_{fs} $	7	10	—	S	$I_D = 2 \text{ A}$ $V_{DS} = 10 \text{ V}^*$
Input capacitance	C_{iss}	—	810	—	pF	$V_{DS} = 10 \text{ V}$
Output capacitance	C_{oss}	—	600	—	pF	$V_{GS} = 0$
Reverse transfer capacitance	C_{rss}	—	155	—	pF	$f = 1 \text{ MHz}$
Turn-on time	t_{on}	—	100	—	ns	$V_{GS} = 4 \text{ V}$, $I_D = 2 \text{ A}$
Turn-off time	t_{off}	—	270	—	ns	$V_{DD} = 10 \text{ V}$
Body-drain diode forward voltage	V_{DF}	—	0.9	—	V	$I_F = 3.5 \text{ A}$, $V_{GS} = 0$

* Pulse Test



Package Dimensions

Unit : mm

