
2SJ399

Silicon P-Channel MOS FET

HITACHI

ADE-208-267
1st. Edition

Application

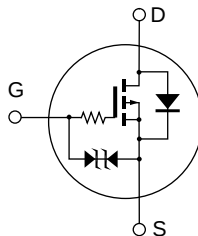
Low frequency power switching

Features

- Low on-resistance
- Small package
- Low drive current
- 4 V gate drive device can be driven from 5 V source
- Suitable for low signal load switch.

Outline

MPAK



1. Source
2. Gate
3. Drain

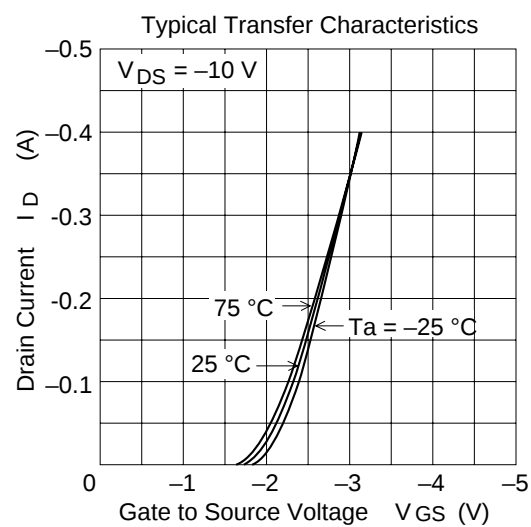
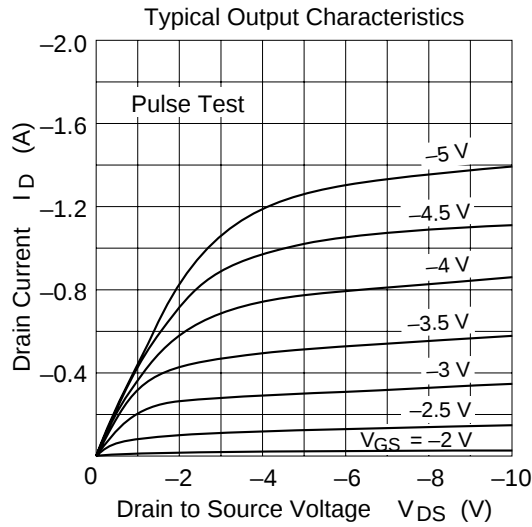
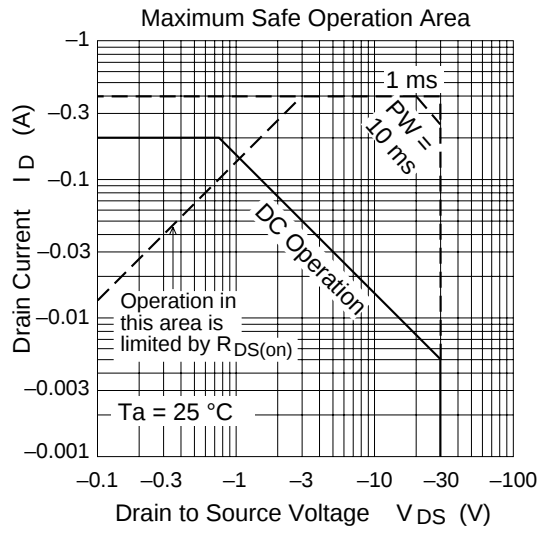
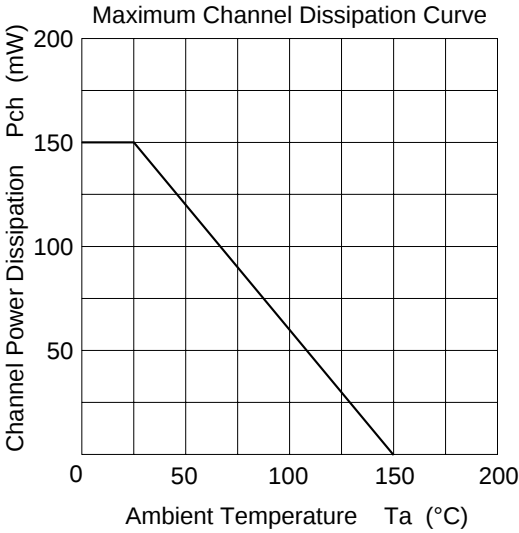
Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V _{DSS}	−30	V
Gate to source voltage	V _{GSS}	±20	V
Drain current	I _D	−0.2	A
Drain peak current	I _{D(pulse)} ^{*1}	−0.4	A
Body to drain diode reverse drain current	I _{DR}	−0.2	A
Channel dissipation	Pch	150	mW
Channel temperature	Tch	150	°C
Storage temperature	Tstg	−55 to +150	°C

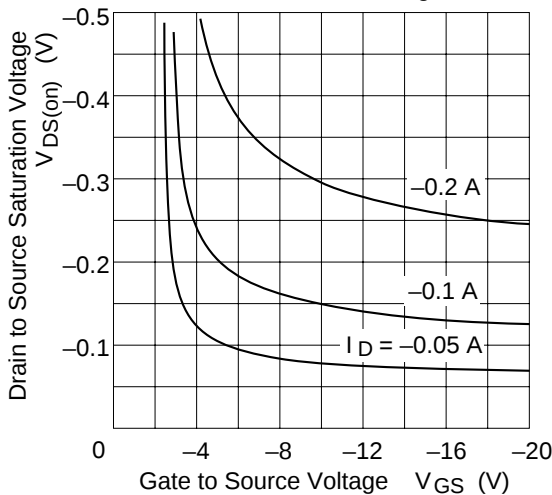
Notes: 1. PW ≤ 100 μs, duty cycle ≤ 10%
2. Marking is “ZF–”

Electrical Characteristics (Ta = 25°C)

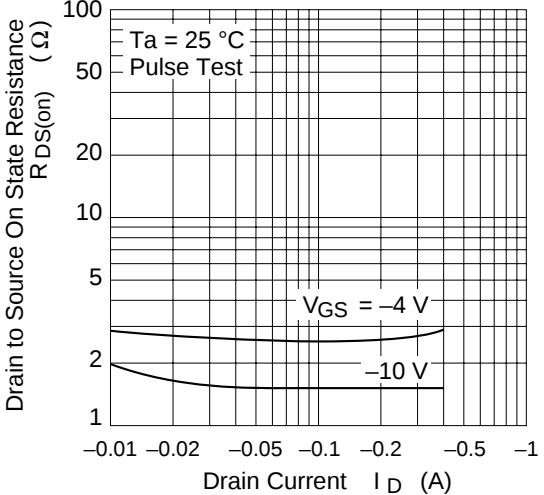
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	V _{(BR)DSS}	−30	—	—	V	I _D = −100 μA, V _{GS} = 0
Gate to source breakdown voltage	V _{(BR)GSS}	±20	—	—	V	I _G = ±100 μA, V _{DS} = 0
Gate to source leak current	I _{GSS}	—	—	±2	μA	V _{GS} = ±16 V, V _{DS} = 0
Zero gate voltage drain current	I _{DSS}	—	—	−1	μA	V _{DS} = −30 V, V _{GS} = 0
Gate to source cutoff voltage	V _{GS(off)}	−1.0	—	−2.0	V	I _D = −10 μA, V _{DS} = −5 V
Static drain to source on state resistance	R _{DS(on)}	—	2.7	5.0	Ω	I _D = −20 mA V _{GS} = −4 V ^{*1}
		—	2.0	3.0	Ω	I _D = −10 mA V _{GS} = −10 V ^{*1}
Input capacitance	Ciss	—	1.1	—	pF	V _{DS} = −10 V
Output capacitance	Coss	—	22.3	—	pF	V _{GS} = 0
Reverse transfer capacitance	Crss	—	0.17	—	pF	f = 1 MHz
Turn-on delay time	t _{d(on)}	—	530	—	ns	I _D = −0.1 A
Rise time	t _r	—	2170	—	ns	V _{GS} = −10 V
Turn-off delay time	t _{d(off)}	—	7640	—	ns	R _L = 100 Ω
Fall time	t _f	—	7690	—	ns	PW = 5 μs



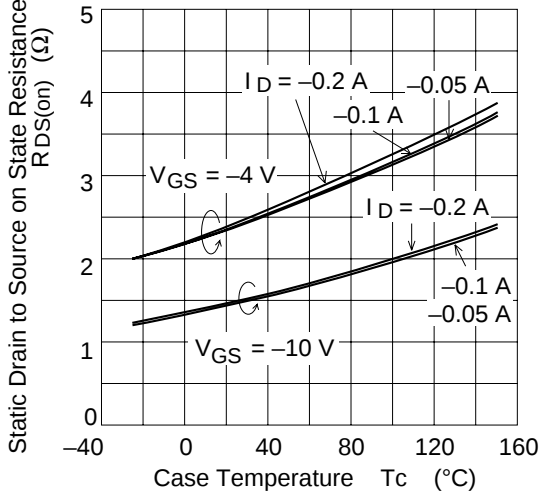
Drain to Source Saturation Voltage vs.
Gate to Source Voltage



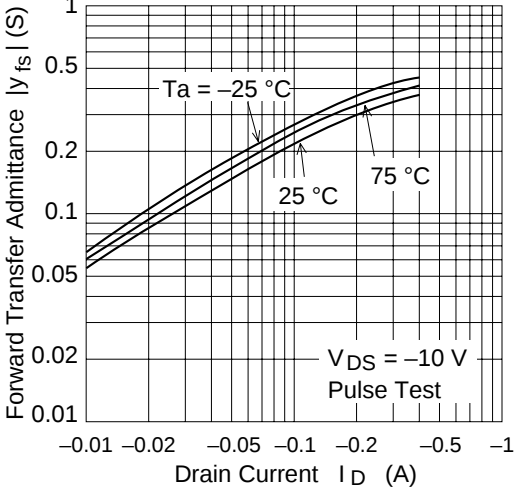
Static Drain to Source on State Resistance
vs. Drain Current

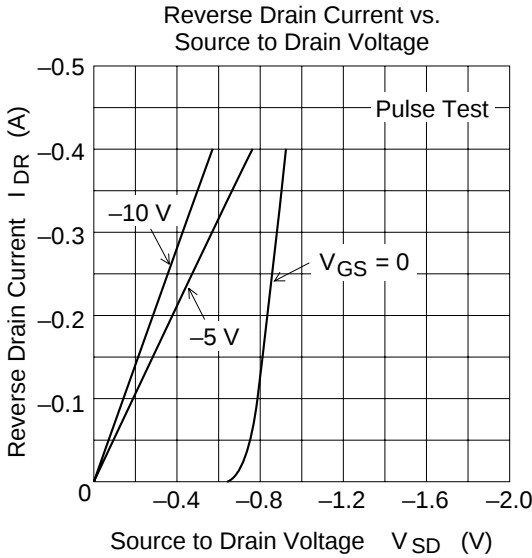
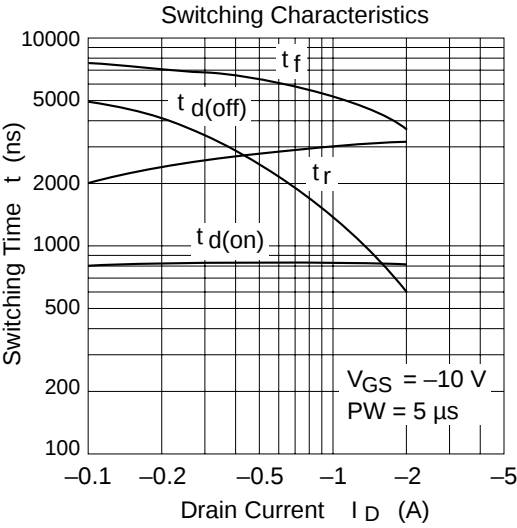
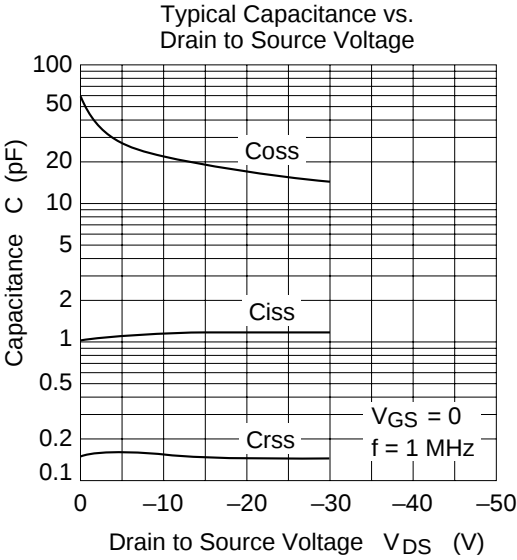


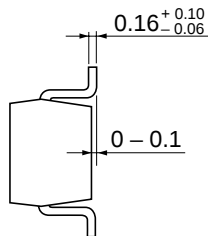
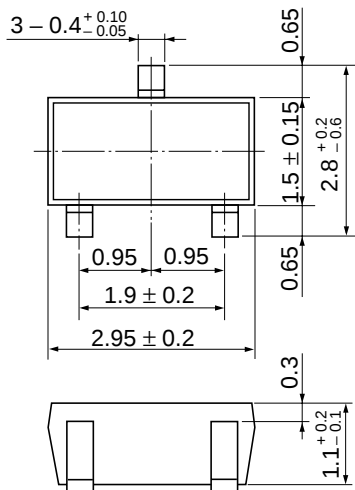
Static Drain to Source on State Resistance
vs. Temperature



Forward Transfer Admittance vs.
Drain Current







Hitachi Code	MPAK
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.011 g

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