

# 2SJ399

## Silicon P-Channel MOS FET

REJ03G0193-0200Z  
(Previous ADE-208-267 (Z) )  
Rev.2.00  
Apr.05.2004

### Application

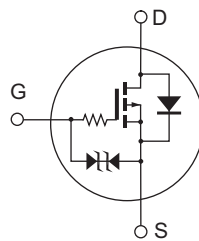
Low frequency power switching

### 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

Note: Marking is "ZF—"

## Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V <sub>DSS</sub>	−30	V
Gate to source voltage	V <sub>GSS</sub>	±20	V
Drain current	I <sub>D</sub>	−0.2	A
Drain peak current	I <sub>D(pulse)</sub> <sup>Note</sup>	−0.4	A
Body to drain diode reverse drain current	I <sub>DR</sub>	−0.2	A
Channel dissipation	P <sub>ch</sub>	150	mW
Channel temperature	T <sub>ch</sub>	150	°C
Storage temperature	T <sub>stg</sub>	−55 to +150	°C

Note: PW ≤ 100 μs, duty cycle ≤ 10%

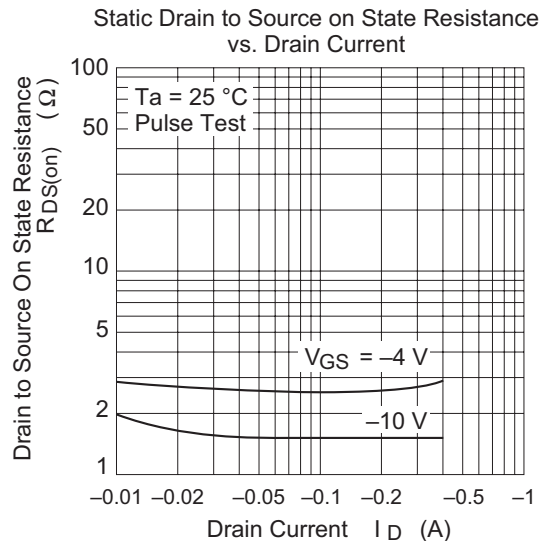
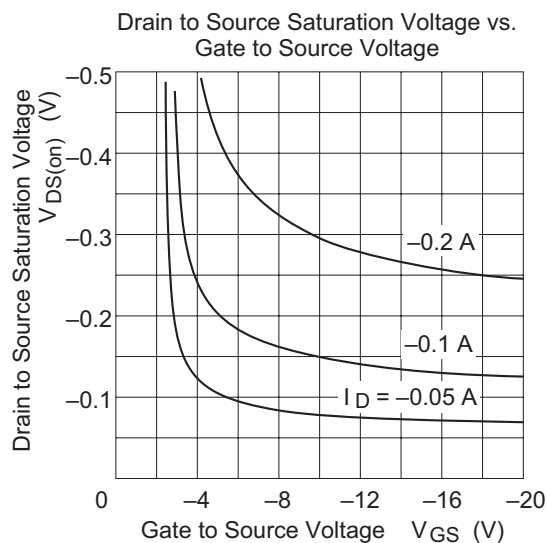
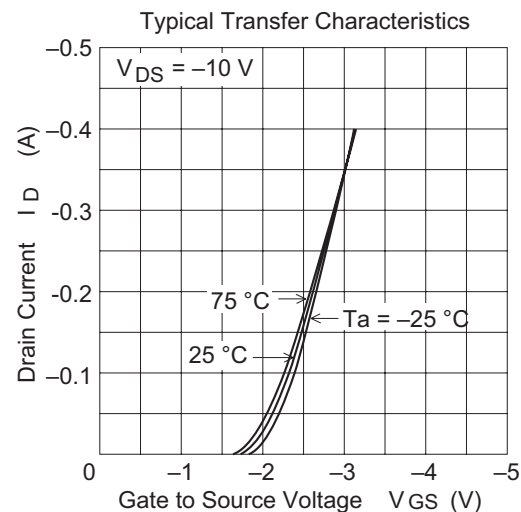
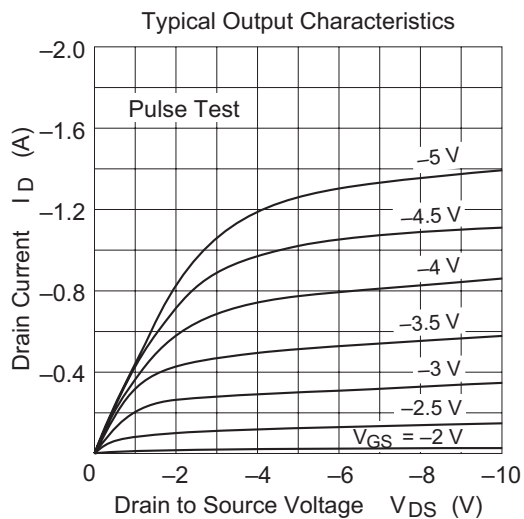
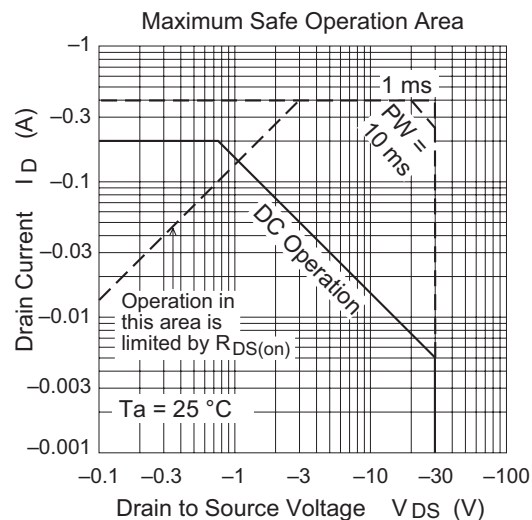
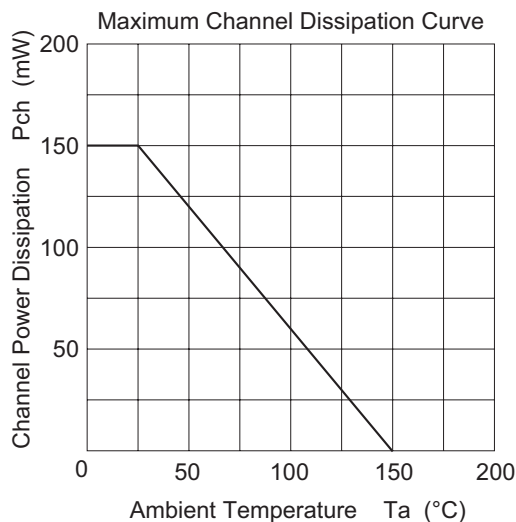
## Electrical Characteristics

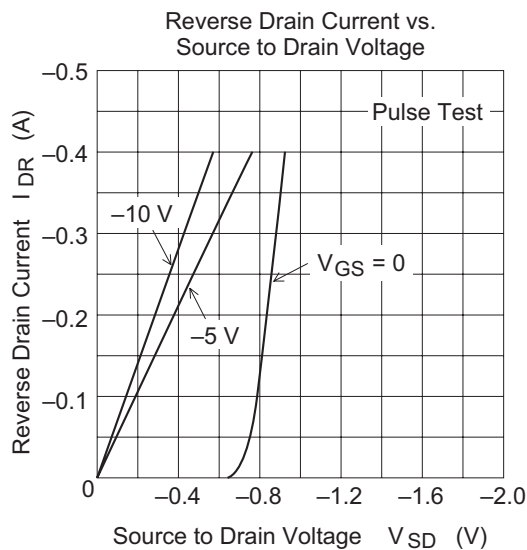
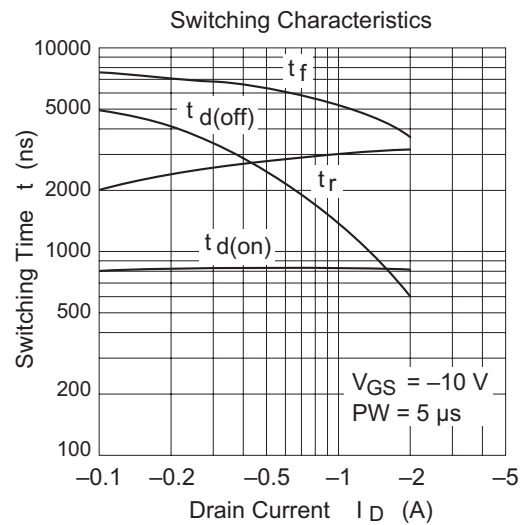
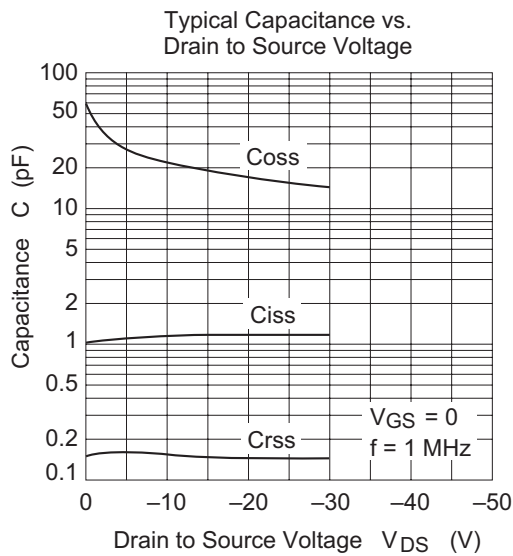
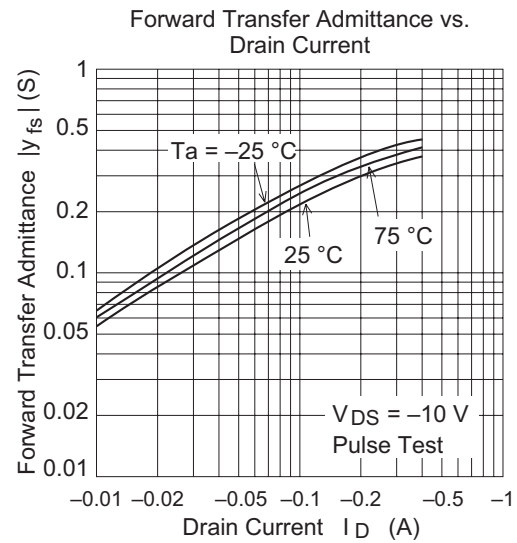
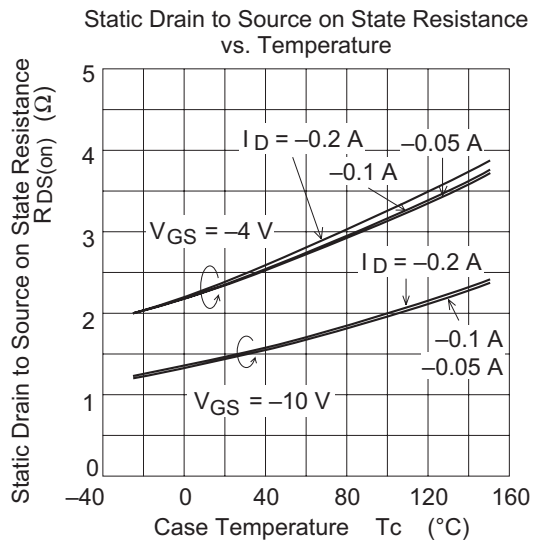
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	V <sub>(BR)DSS</sub>	−30	—	—	V	I <sub>D</sub> = −100 μA, V <sub>GS</sub> = 0
Gate to source breakdown voltage	V <sub>(BR)GSS</sub>	±20	—	—	V	I <sub>G</sub> = ±100 μA, V <sub>DS</sub> = 0
Gate to source leak current	I <sub>GSS</sub>	—	—	±2	μA	V <sub>GS</sub> = ±16 V, V <sub>DS</sub> = 0
Zero gate voltage drain current	I <sub>DSS</sub>	—	—	−1	μA	V <sub>DS</sub> = −30 V, V <sub>GS</sub> = 0
Gate to source cutoff voltage	V <sub>GS(off)</sub>	−1.0	—	−2.0	V	I <sub>D</sub> = −10 μA, V <sub>DS</sub> = −5 V
Static drain to source on state resistance	R <sub>DS(on)</sub>	—	2.7	7.5	Ω	I <sub>D</sub> = −20 mA, V <sub>GS</sub> = −4 V
		—	2.0	7.0	Ω	I <sub>D</sub> = −10 mA, V <sub>GS</sub> = −10 V
Input capacitance	C <sub>iss</sub>	—	1.1	—	pF	V <sub>DS</sub> = −10 V
Output capacitance	C <sub>oss</sub>	—	22.3	—	pF	V <sub>GS</sub> = 0
Reverse transfer capacitance	C <sub>rss</sub>	—	0.17	—	pF	f = 1 MHz
Turn-on delay time	t <sub>d(on)</sub>	—	530	—	ns	I <sub>D</sub> = −0.1 A
Rise time	t <sub>r</sub>	—	2170	—	ns	V <sub>GS</sub> = −10 V
Turn-off delay time	t <sub>d(off)</sub>	—	7640	—	ns	R <sub>L</sub> = 100 Ω
Fall time	t <sub>f</sub>	—	7690	—	ns	PW = 5 μs

Note: Pulse Test

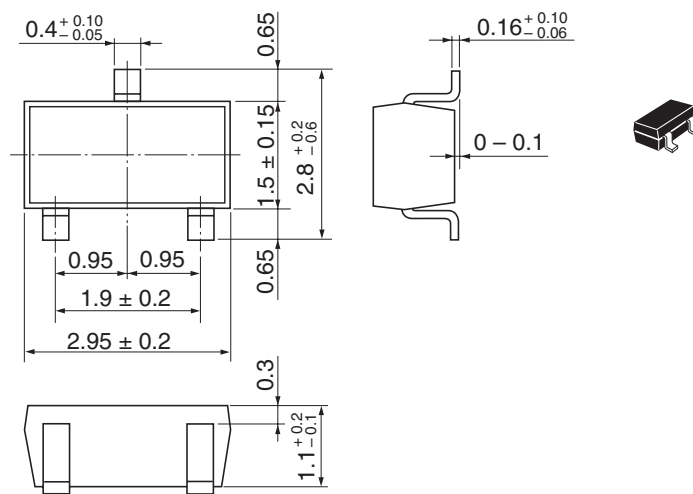
## Main Characteristics





## Package Dimensions

As of January, 2003  
Unit: mm



Package Code	MPAK(T)
JEDEC	—
JEITA	Conforms
Mass (reference value)	0.011 g

## Ordering Information

Part Name	Quantity	Shipping Container
2SJ399	3000 pcs	φ178 mm Taping Reel (TL)

Note: For some grades, production may be terminated. Please contact the Renesas sales office to check the state of production before ordering the product.

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