

2SJ483

Silicon P Channel MOS FET
High Speed Power Switching

HITACHI

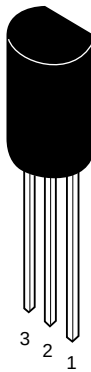
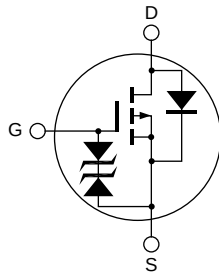
ADE-208-519
1st. Edition

Features

- Low on-resistance
 $R_{DS(on)} = 0.08\Omega$ typ (at $V_{GS} = -10$ V, $I_D = -2.5$ A)
- 4V gate drive devices.
- Large current capacitance
 $I_D = -5$ A

Outline

TO-92MOD.



1. Source
2. Drain
3. Gate

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	−5	A
Drain peak current	I _{D(pulse)} ^{Note1}	−20	A
Body to drain diode reverse drain current	I _{DR}	−5	A
Channel dissipation	P _{ch}	0.9	W
Channel temperature	T _{ch}	150	°C
Storage temperature	T _{stg}	−55 to +150	°C

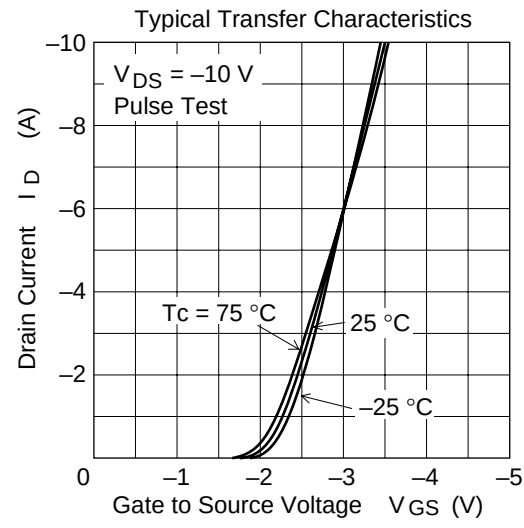
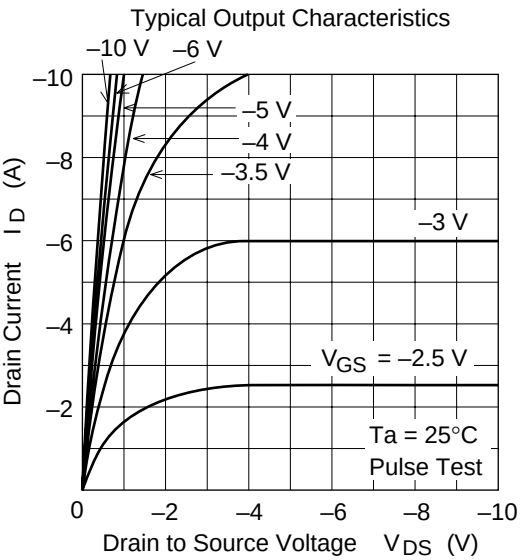
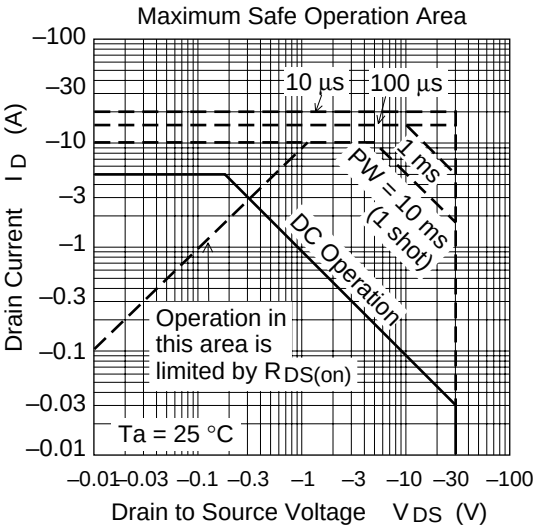
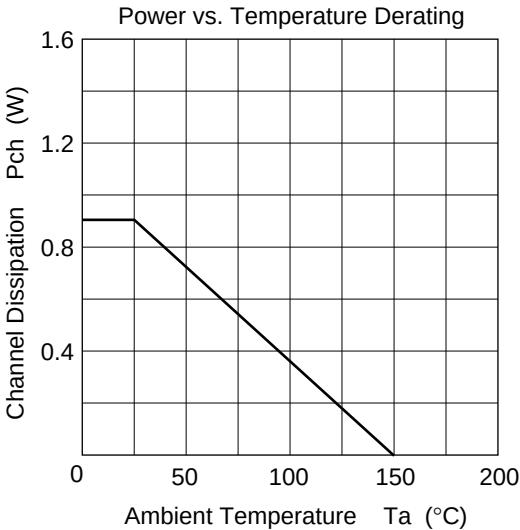
Note: 1. PW ≤ 10μs, duty cycle ≤ 1 %

Electrical Characteristics (Ta = 25°C)

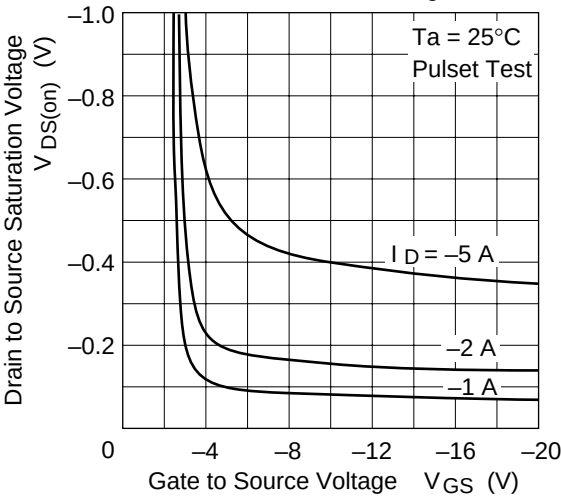
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	-30	—	—	V	$I_D = -10\text{mA}$, $V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR)GSS}$	±20	—	—	V	$I_G = \pm 100\mu\text{A}$, $V_{DS} = 0$
Zero gate voltage drain current	I_{DSS}	—	—	-10	μA	$V_{DS} = -30\text{V}$, $V_{GS} = 0$
Gate to source leak current	I_{GSS}	—	—	±10	μA	$V_{GS} = \pm 16\text{V}$, $V_{DS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	-1.0	—	-2.0	V	$I_D = -1\text{mA}$, $V_{DS} = -10\text{V}$
Static drain to source on state resistance	$R_{DS(on)}$	—	0.08	0.11	Ω	$I_D = -2.5\text{A}$ $V_{GS} = -10\text{V}^{*1}$
	$R_{DS(on)}$	—	0.12	0.17	Ω	$I_D = -2.5\text{A}$ $V_{GS} = -4\text{V}^{*1}$
Forward transfer admittance	$ y_{fs} $	3	5	—	S	$I_D = -2.5\text{A}$, $V_{DS} = -10\text{V}^{*1}$
Input capacitance	C_{iss}	—	630	—	pF	$V_{DS} = -10\text{V}$
Output capacitance	C_{oss}	—	390	—	pF	$V_{GS} = 0$
Reverse transfer capacitance	C_{rss}	—	135	—	pF	$f = 1\text{MHz}$
Turn-on delay time	$t_{d(on)}$	—	15	—	ns	$V_{GS} = -10\text{V}$, $I_D = -2.5\text{A}$
Rise time	t_r	—	70	—	ns	$R_L = 4\Omega$
Turn-off delay time	$t_{d(off)}$	—	65	—	ns	
Fall time	t_f	—	60	—	ns	
Body to drain diode forward voltage	V_{DF}	—	-1.0	—	V	$I_D = -5\text{A}$, $V_{GS} = 0$
Body to drain diode reverse recovery time	t_{rr}	—	60	—	ns	$I_F = -5\text{A}$, $V_{GS} = 0$ $diF/dt = 20\text{A}/\mu\text{s}$

Note: 1. Pulse test

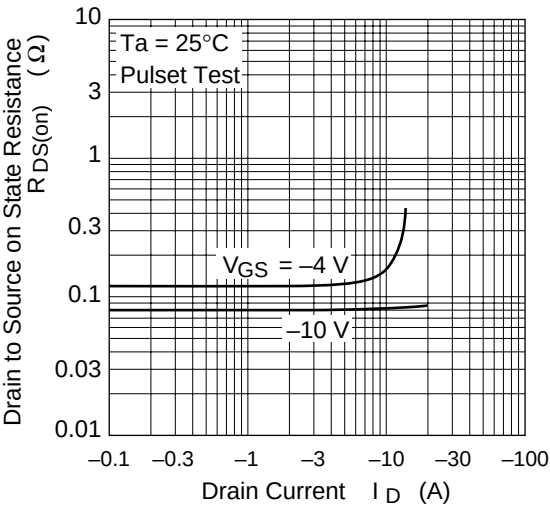
Main Characteristics



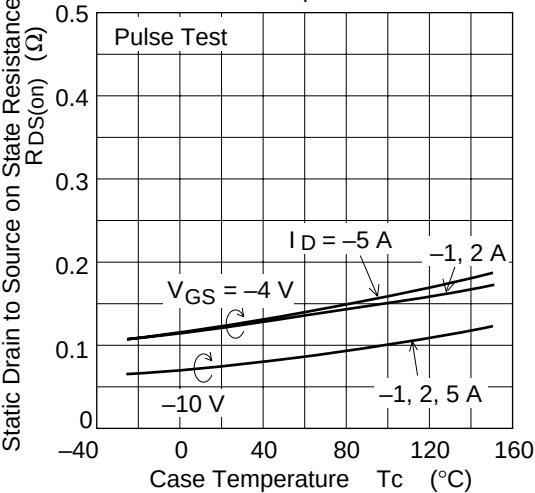
Drain to Source Saturation Voltage vs.
Gate to Source Voltage



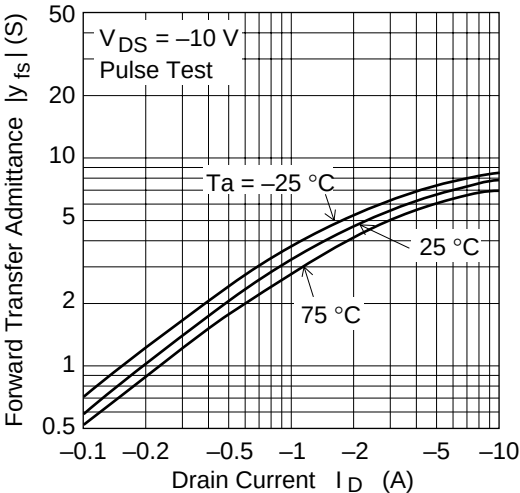
Static Drain to Source on State Resistance
vs. Drain Current

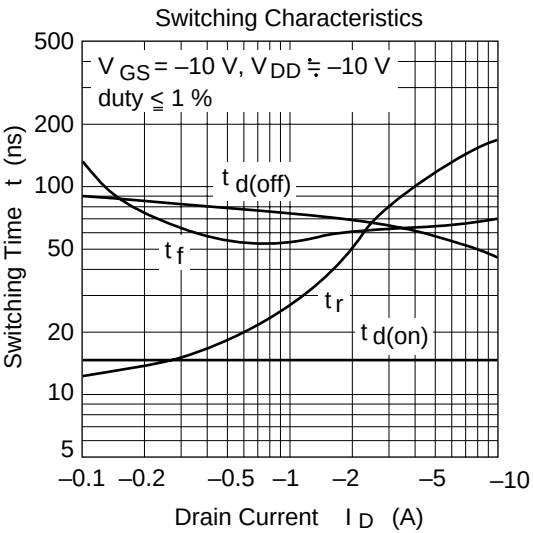
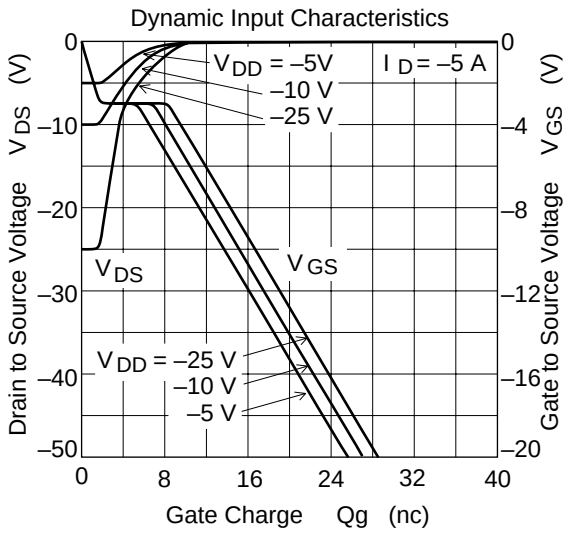
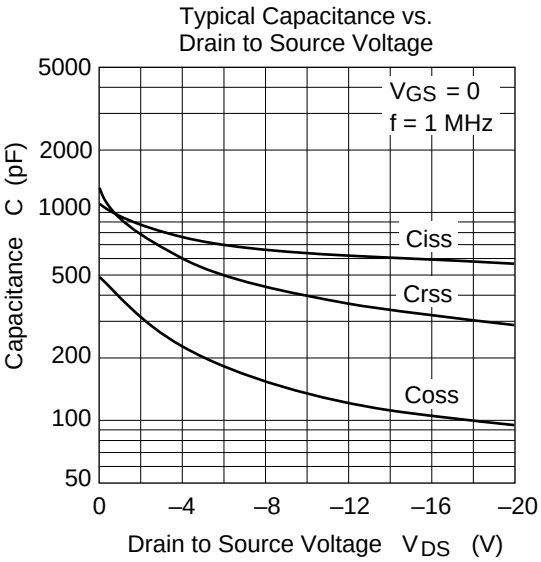
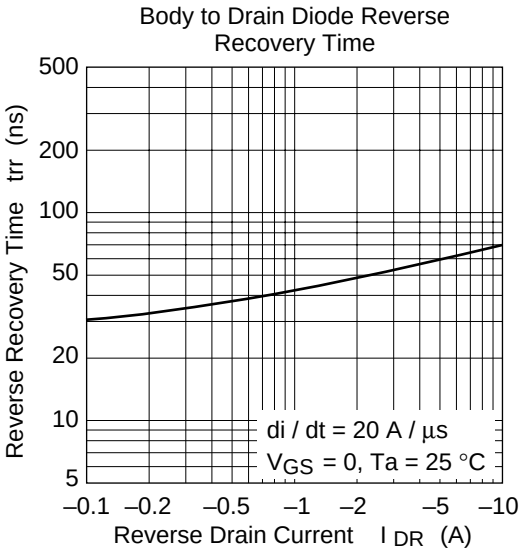


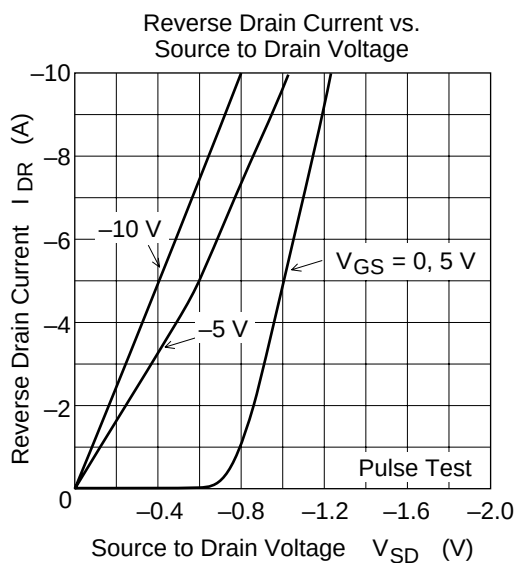
Static Drain to Source on State Resistance
vs. Temperature



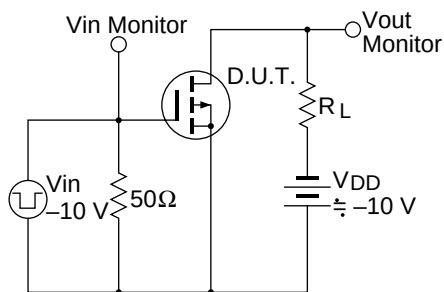
Forward Transfer Admittance vs.
Drain Current



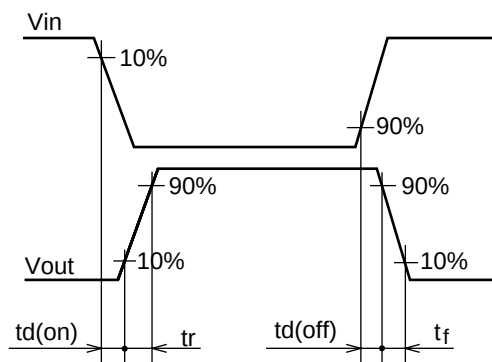




Switching Time Test Circuit

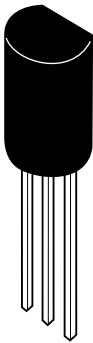
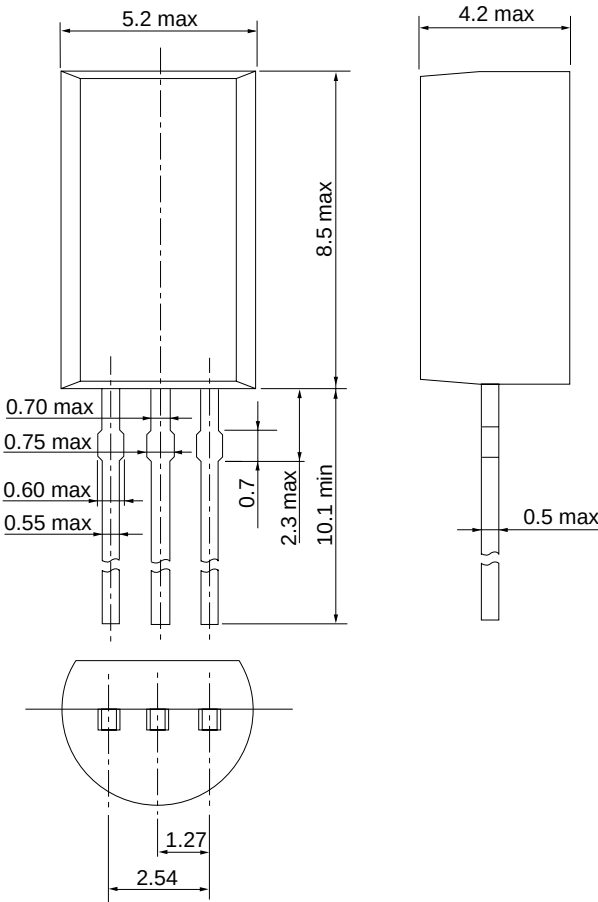


Switching Time Waveforms



Package Dimensions

Unit: mm



Hitachi Code	TO-92Mod.
EIAJ	SC-51
JEDEC	—

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