2SJ483

Silicon P Channel MOS FET
High Speed Power Switching

HITACHI

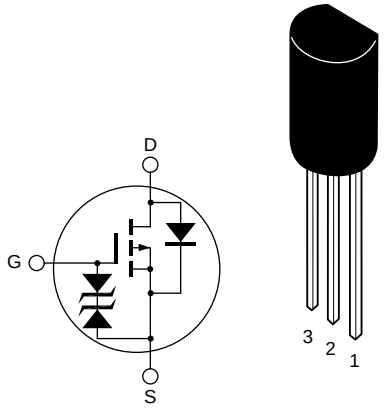
ADE-208-519
1st. Edition

Features

- Low on-resistance
  $R_{DS(on)}$ = 0.08Ω 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

Hitachi semiconductor

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	Pch	0.9	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	–55 to +150	°C

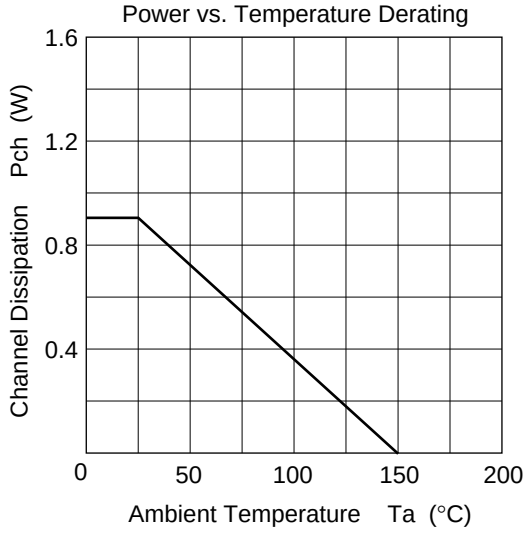
Note: 1. PW ≤ 10µs, duty cycle ≤ 1 %

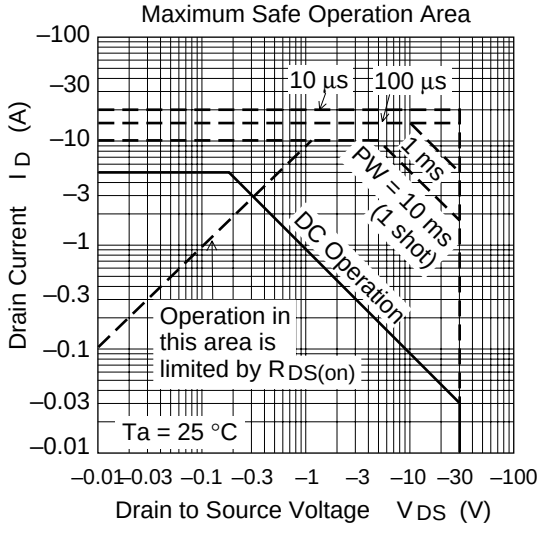
Electrical Characteristics (Ta = 25°C)

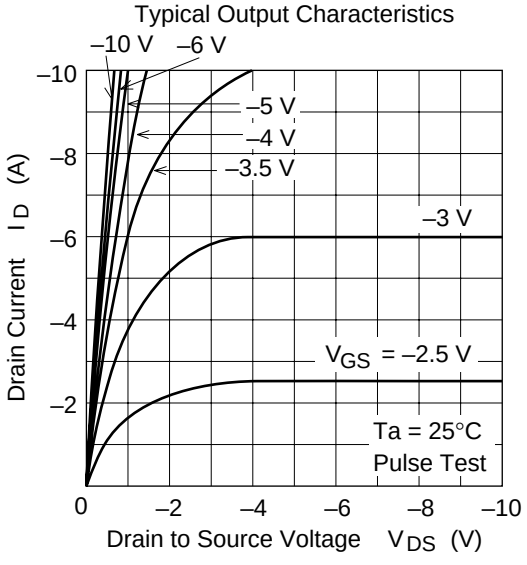
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	–30	—	—	V	I_D = –10mA, V_{GS} = 0
Gate to source breakdown voltage	$V_{(BR)GSS}$	±20	—	—	V	I_G = ±100µA, V_{DS} = 0
Zero gate voltege drain current	I_{DSS}	—	—	–10	µA	V_{DS} = –30 V, V_{GS} = 0
Gate to source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

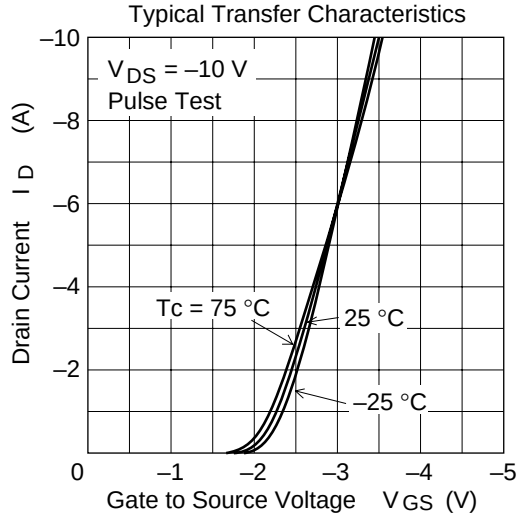
Note: 1. Pulse test

Main Characteristics

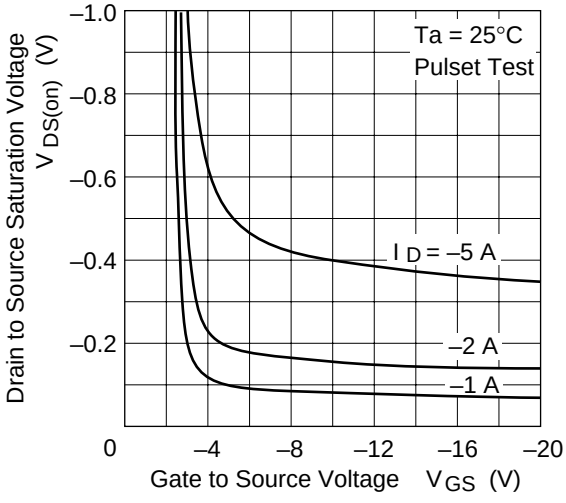




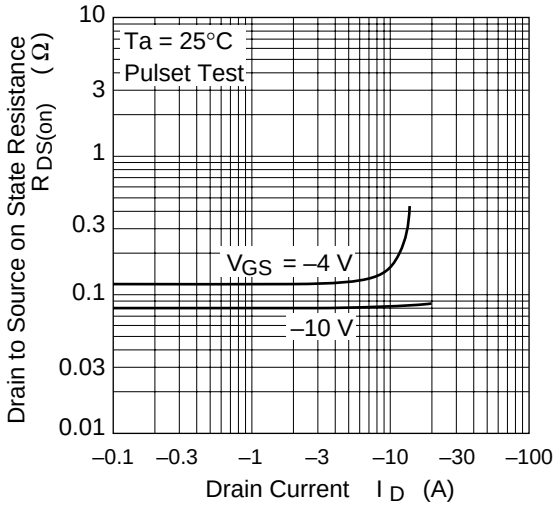




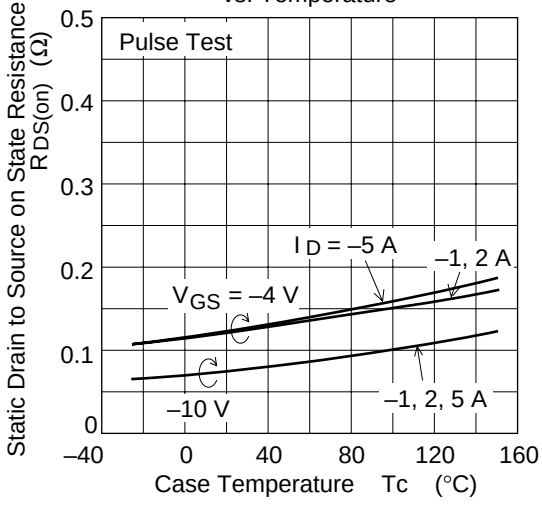
Drain to Source Saturation Voltage vs. Gate to Source Voltage



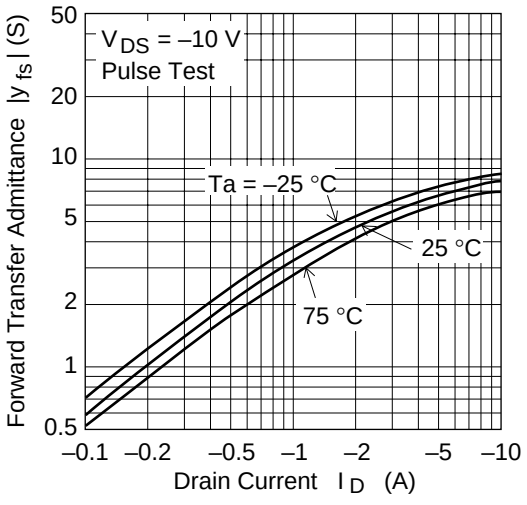
Static Drain to Source on State Resistance vs. Drain Current



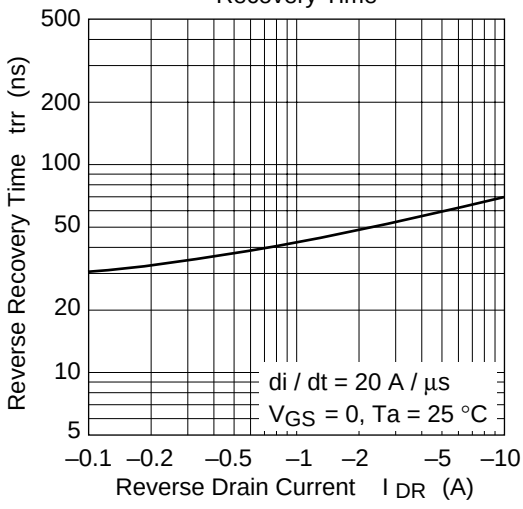
Static Drain to Source on State Resistance vs. Temperature



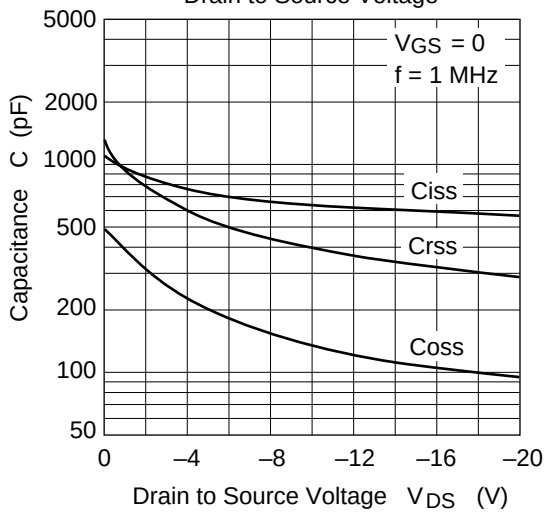
Forward Transfer Admittance vs. Drain Current



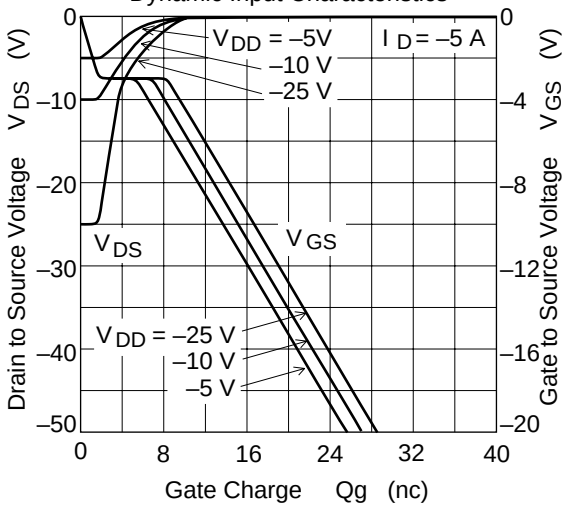
Body to Drain Diode Reverse Recovery Time



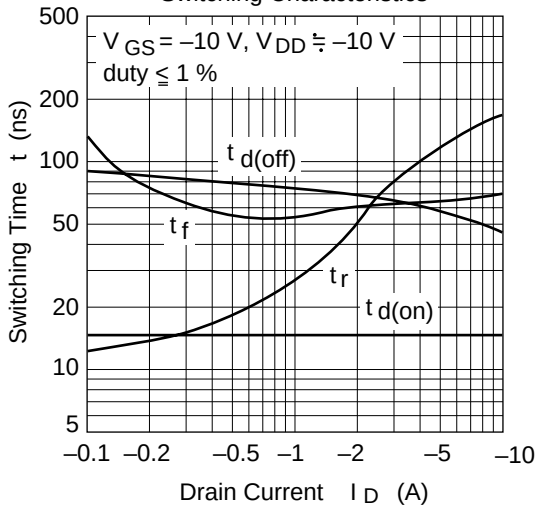
Typical Capacitance vs. Drain to Source Voltage



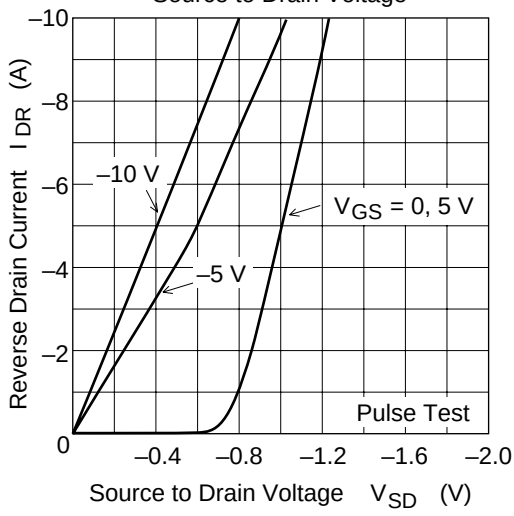
Dynamic Input Characteristics



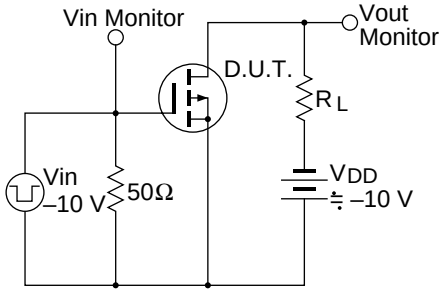
Switching Characteristics



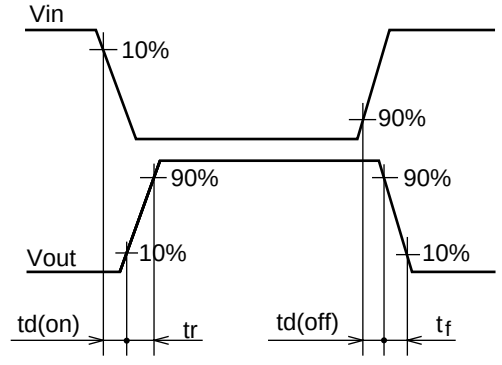
Reverse Drain Current vs.
Source to Drain Voltage



Switching Time Test Circuit

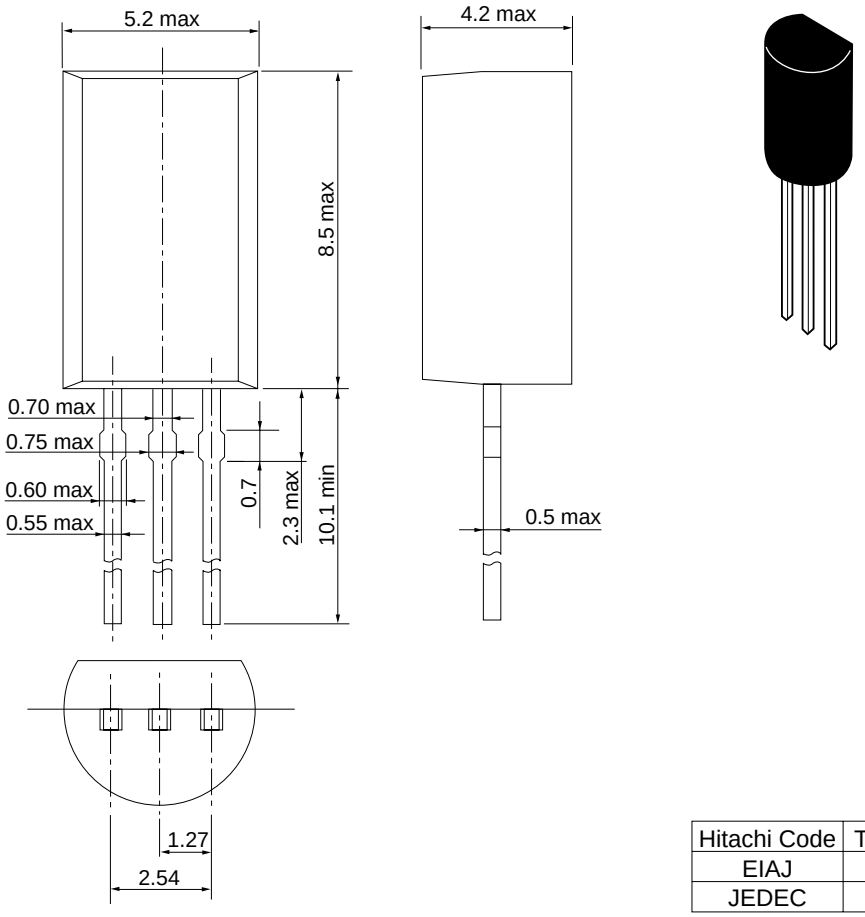


Switching Time Waveforms



Package Dimensions

Unit: mm



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

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