2SJ486

Silicon P Channel MOS FET
Low FrequencyPower Switching

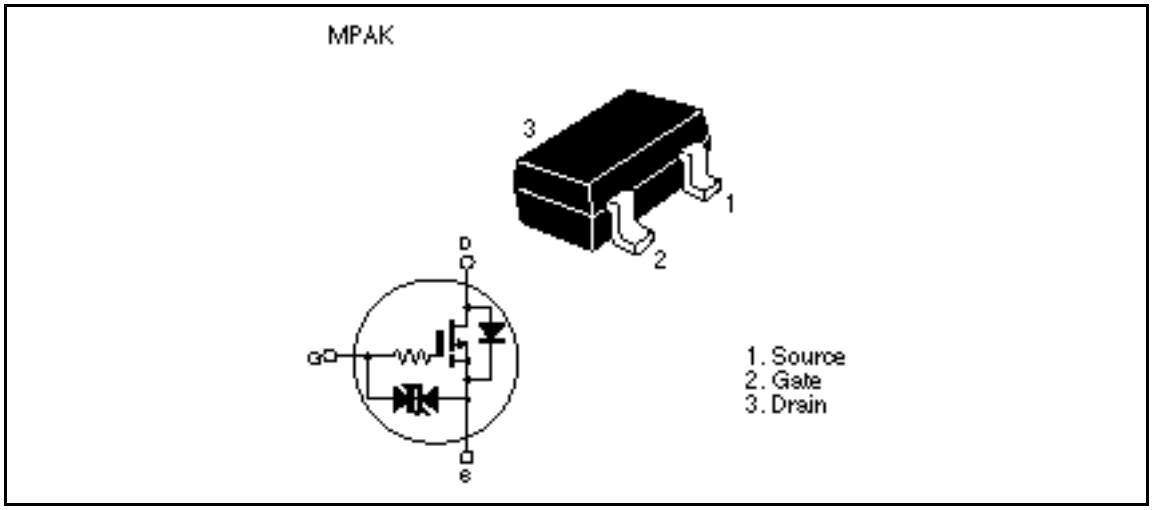
HITACHI

ADE-208-512 A
2nd. Edition

Features

- Low on-resistance
  $R_{DS(on)}$ = 0.5 Ω typ. (at V_{GS} = –4V, I_D = –100 mA)
- 2.5V gate drive devices.
- Small package (MPAK).

Outline



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}	±10	V
Drain current	I_D	–0.3	A
Drain peak current	$I_{D(pulse)}$*[1]	–0.6	A
Channel dissipation	Pch	150	mW
Channel temperature	Tch	150	°C
Storage temperature	Tstg	–55 to +150	°C

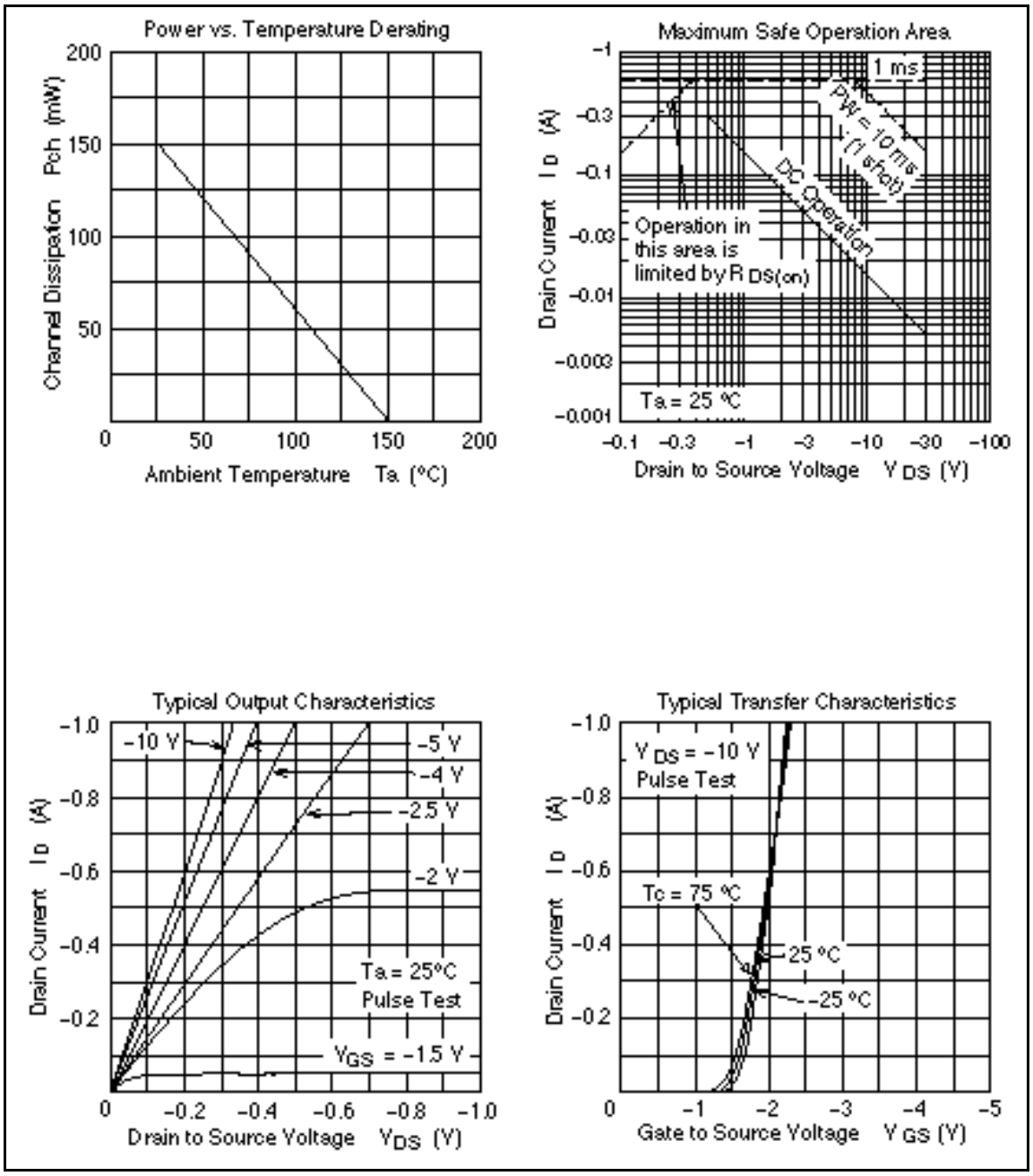
Note: 1. PW ≤ 10µs, duty cycle ≤ 1 %

Electrical Characteristics (Ta = 25°C)

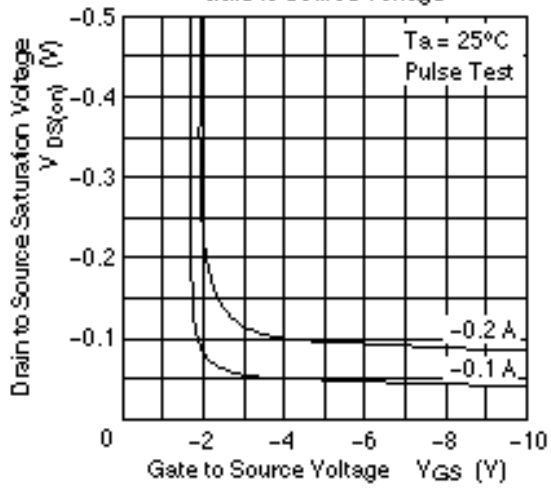
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	–30	—	—	V	I_D = –10µA, V_{GS} = 0
Gate to source breakdown voltage	$V_{(BR)GSS}$	±10	—	—	V	I_G = ±100µA, V_{DS} = 0
Zero gate voltege drain current	I_{DSS}	—	—	–1.0	µA	V_{DS} = –30 V, V_{GS} = 0
Gate to source leak current	I_{GSS}	—	—	±5.0	µA	V_{GS} = ±6.5V, V_{DS} = 0
Gate to source cutoff voltage	$V_{GS(off)}$	–0.5	—	–1.5	V	I_D = –10µA, V_{DS} = –5V
Static drain to source on state resistance	$R_{DS(on)}$	—	0.5	0.65	Ω	I_D = –100mA V_{GS} = –4V*[1]
	$R_{DS(on)}$	—	0.7	1.2	Ω	I_D = –40mA V_{GS} = –2.5V*[1]
Forward transfer admittance	$\|y_{fs}\|$	0.4	0.65	—	S	I_D = –100mA V_{DS} = –10V*[1]
Input capacitance	Ciss	—	45	—	pF	V_{DS} = –10V
Output capacitance	Coss	—	76	—	pF	V_{GS} = 0
Reverse transfer capacitance	Crss	—	5.4	—	pF	f = 1MHz
Turn-on delay time	$t_{d(on)}$	—	120	—	ns	V_{GS} = –4V
Rise time	t_r	—	340	—	ns	I_D = –150mA
Turn-off delay time	$t_{d(off)}$	—	850	—	ns	R_L = 66.6Ω
Fall time	t_f	—	550	—	ns	

Notes: 1. Pulse test
2. Marking is “ZU–”.

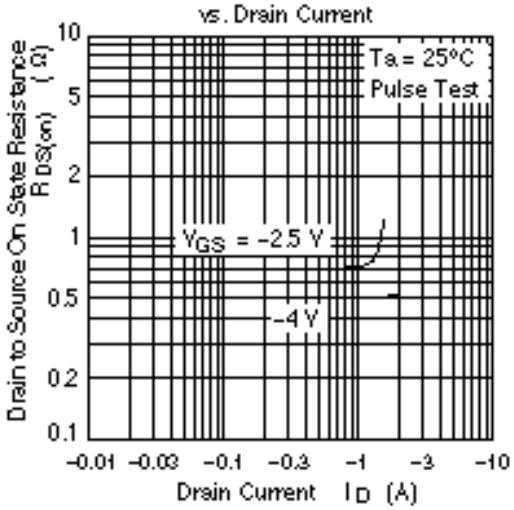
Main Characteristics



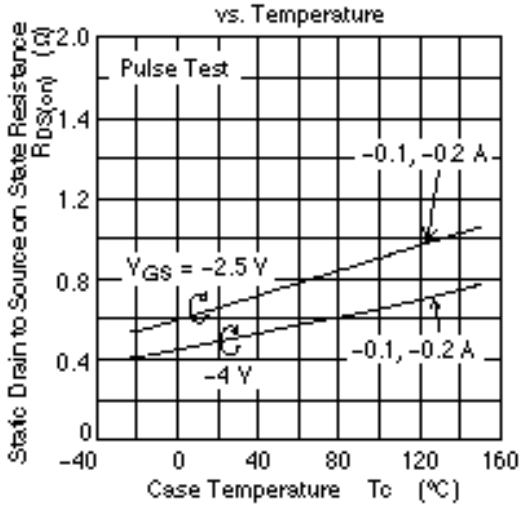
Drain to Source Saturation Voltage vs. Gate to Source Voltage



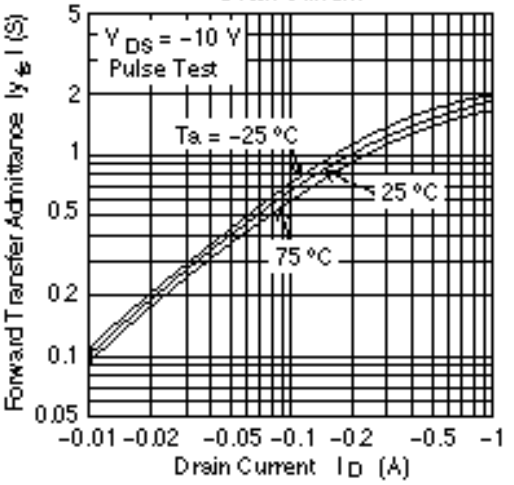
Static Drain to Source on State Resistance vs. Drain Current



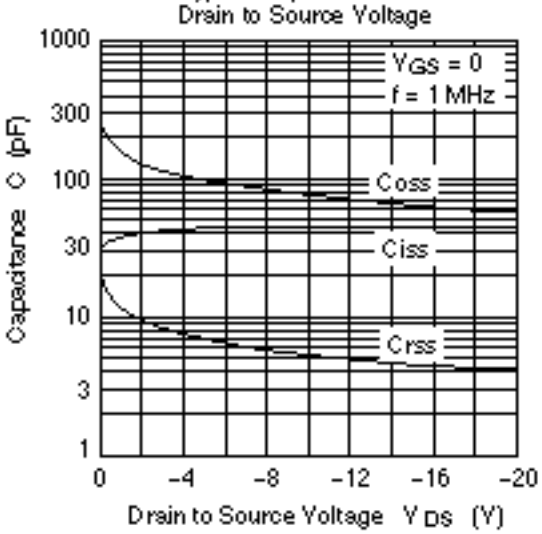
Static Drain to Source on State Resistance vs. Temperature



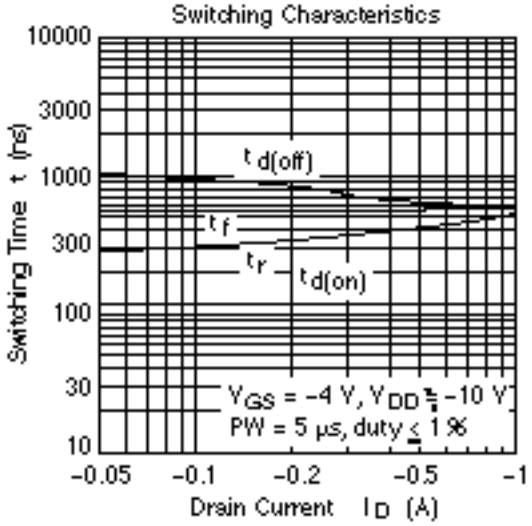
Forward Transfer Admittance vs. Drain Current



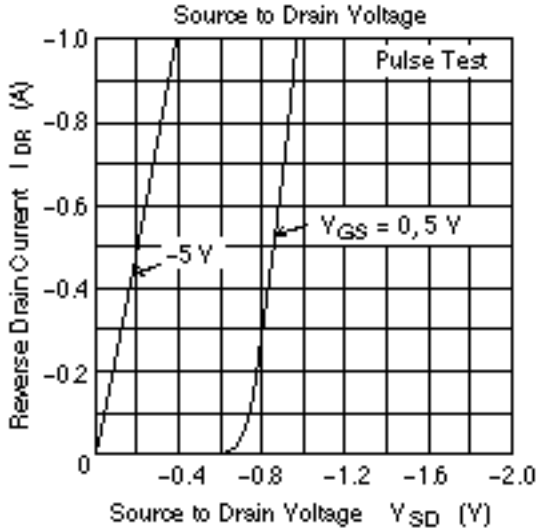
Typical Capacitance vs.
Drain to Source Voltage

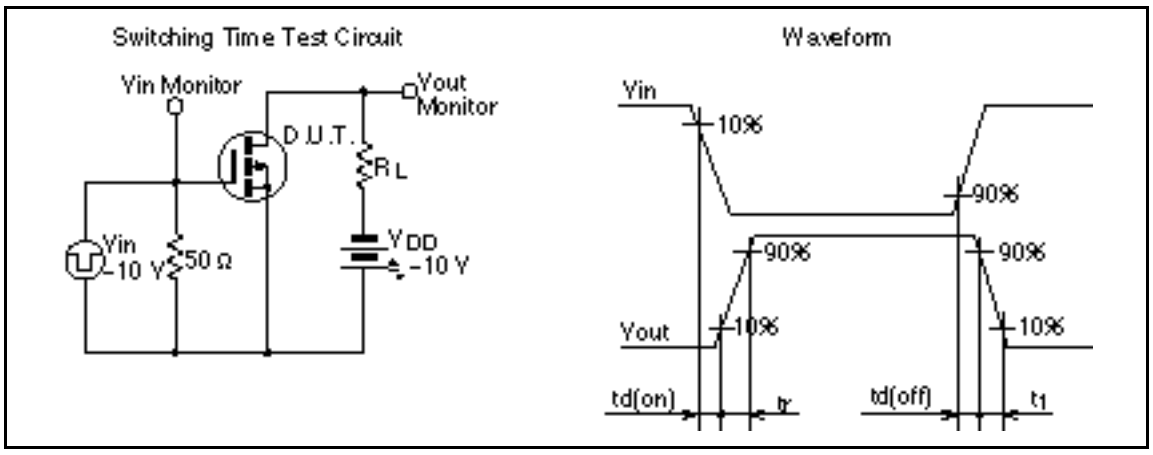


Switching Characteristics



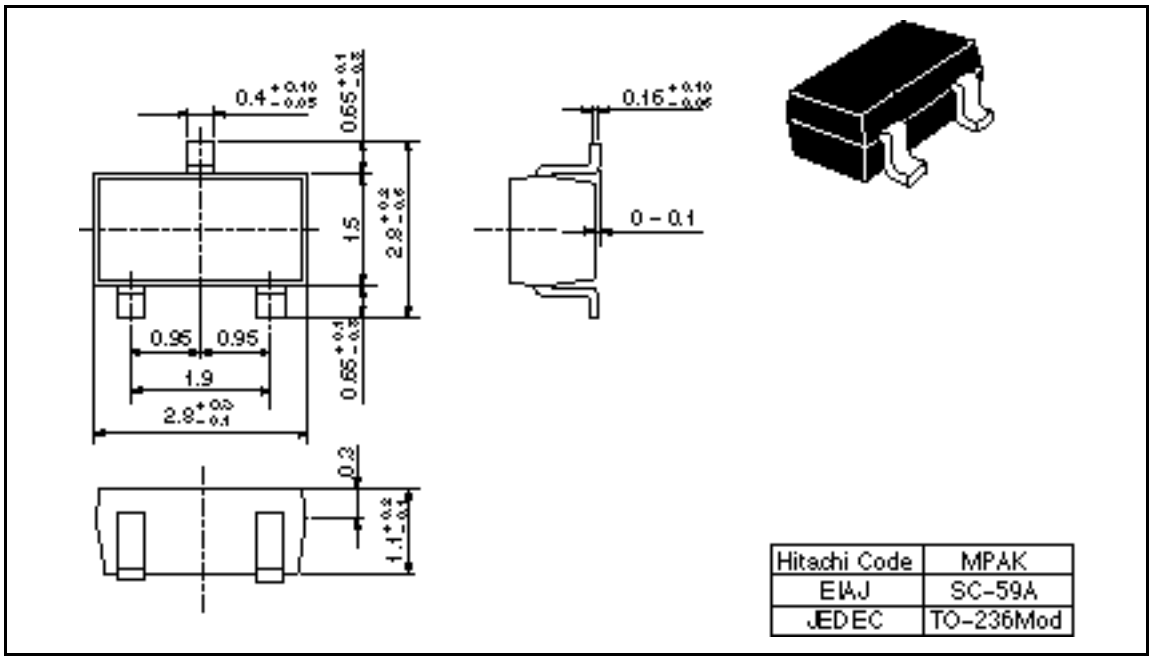
Reverse Drain Current vs.
Source to Drain Voltage




Switching Time Test Circuit
Yin Monitor
Vout Monitor
D.U.T.
RL
Yin
10 V
50 Ω
VDD
−10 V
Waveform
Yin
10%
90%
90%
90%
Vout
10%
10%
td(on)
tr
td(off)
tf

Package Dimensions

Unit: mm



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EIAJ	SC-59A
JEDEC	TO-236Mod

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