

## 4V Drive Pch+Pch MOSFET

## SH8J65

## ●Structure

Silicon P-channel MOSFET

## ●Features

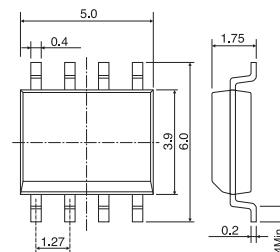
- 1) Low On-resistance.
- 2) Built-in G-S Protection Diode.
- 3) Small Surface Mount Package (SOP8).

## ●Application

Switching

## ●Dimensions (Unit : mm)

SOP8



Each lead has same dimensions

## ●Packaging specifications

Type	Package	Taping
	Code	TB
	Basic ordering unit (pieces)	2500
SH8J65		○

## ●Absolute maximum ratings (Ta=25°C)

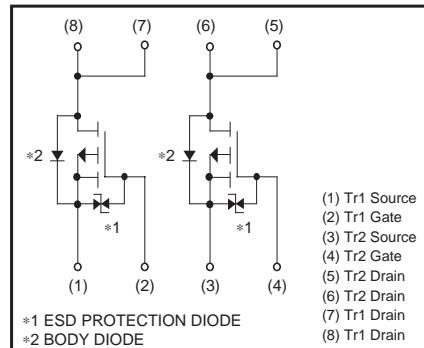
&lt;It is the same ratings for the Tr1 and Tr2.&gt;

Parameter	Symbol	Limits	Unit
Drain-source voltage	V <sub>DSS</sub>	-30	V
Gate-source voltage	V <sub>GSS</sub>	±20	V
Drain current	Continuous	I <sub>D</sub>	A
	Pulsed	I <sub>DP</sub>	A
Source current (Body diode)	Continuous	I <sub>S</sub>	A
	Pulsed	I <sub>SP</sub>	A
Total power dissipation	P <sub>D</sub>	2.0	W / TOTAL
		1.4	W / ELEMENT
Channel temperature	T <sub>ch</sub>	150	°C
Range of Storage temperature	T <sub>stg</sub>	-55 to +150	°C

\*1 P<sub>W</sub>≤10μs, Duty cycle≤1%

\*2 Mounted on a ceramic board

## ●Inner circuit



- (1) Tr1 Source
- (2) Tr1 Gate
- (3) Tr2 Source
- (4) Tr2 Gate
- (5) Tr2 Drain
- (6) Tr2 Drain
- (7) Tr1 Drain
- (8) Tr1 Drain

\*1 ESD PROTECTION DIODE

\*2 BODY DIODE

## ●Electrical characteristics (Ta=25°C)

&lt;It is the same characteristics for the Tr1 and Tr2.&gt;

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Gate-source leakage	$I_{GSS}$	—	—	$\pm 10$	$\mu A$	$V_{GS}=\pm 20V, V_{DS}=0V$
Drain-source breakdown voltage	$V_{(BR)DSS}$	—30	—	—	V	$I_D=-1mA, V_{GS}=0V$
Zero gate voltage drain current	$I_{DSS}$	—	—	—1	$\mu A$	$V_{DS}=-30V, V_{GS}=0V$
Gate threshold voltage	$V_{GS(\text{th})}$	—1.0	—	—2.5	V	$V_{DS}=-10V, I_D=-1mA$
Static drain-source on-state resistance	$R_{DS(\text{on})}^*$	—	21.5	29.0	$m\Omega$	$I_D=-7A, V_{GS}=-10V$
		—	29.0	39.0	$m\Omega$	$I_D=-3.5A, V_{GS}=-4.5V$
		—	31.0	40.8	$m\Omega$	$I_D=-3.5A, V_{GS}=-4.0V$
Forward transfer admittance	$ Y_{fs} ^*$	6.0	—	—	S	$V_{DS}=-10V, I_D=-7A$
Input capacitance	$C_{iss}$	—	1200	—	pF	$V_{DS}=-10V$
Output capacitance	$C_{oss}$	—	170	—	pF	$V_{GS}=0V$
Reverse transfer capacitance	$C_{rss}$	—	170	—	pF	$f=1MHz$
Turn-on delay time	$t_d(\text{on})^*$	—	12	—	ns	$V_{DD}=-15V$ $I_D=-3.5A$
Rise time	$t_r^*$	—	40	—	ns	$V_{GS}=-10V$
Turn-off delay time	$t_d(\text{off})^*$	—	80	—	ns	$R_L=4.3\Omega$ $R_G=10\Omega$
Fall time	$t_f^*$	—	65	—	ns	
Total gate charge	$Q_g^*$	—	18	—	nC	$V_{DD}=-15V$ $I_D=-7A$
Gate-source charge	$Q_{gs}^*$	—	3.5	—	nC	$V_{GS}=-5V$
Gate-drain charge	$Q_{gd}^*$	—	6.5	—	nC	$R_L=2.1\Omega / R_G=10\Omega$

\*Pulsed

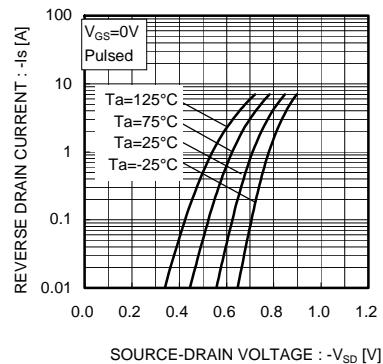
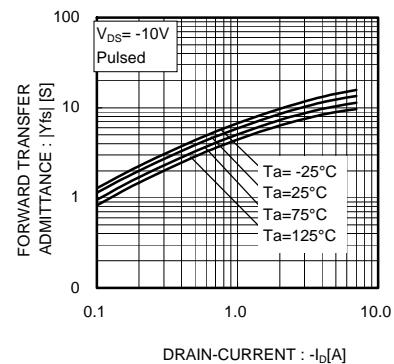
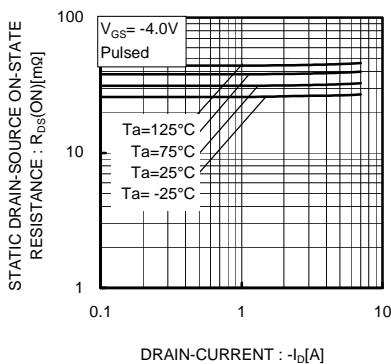
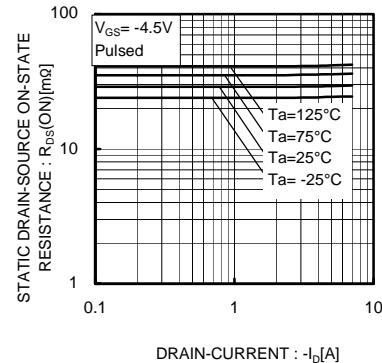
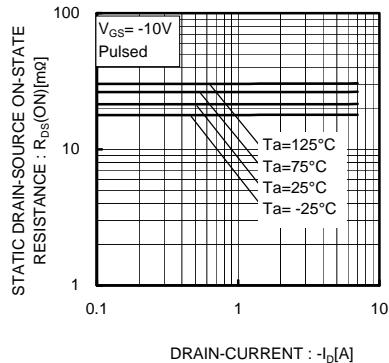
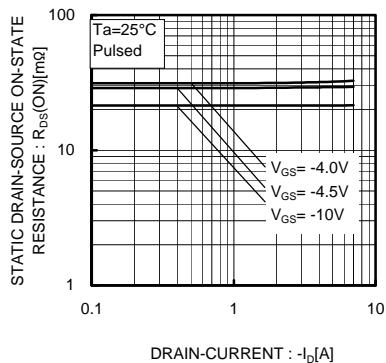
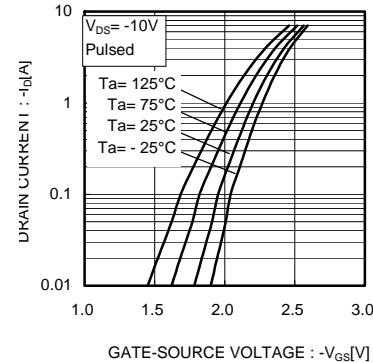
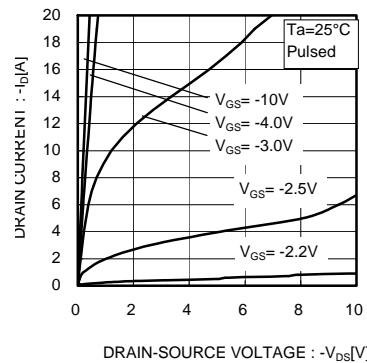
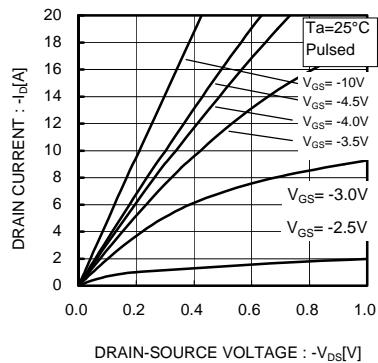
## ●Body diode characteristics (Source-Drain) (Ta=25°C)

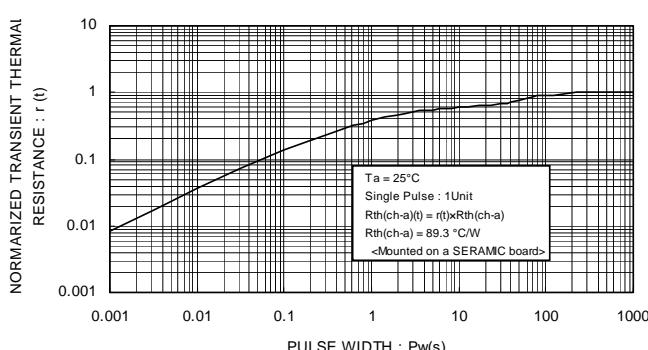
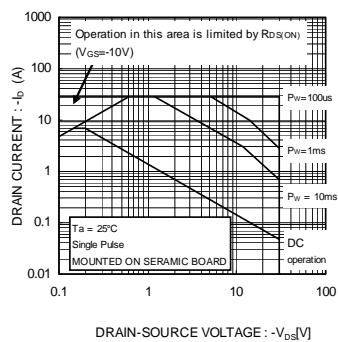
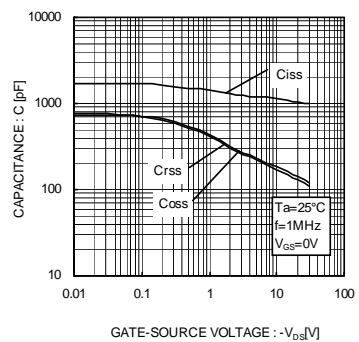
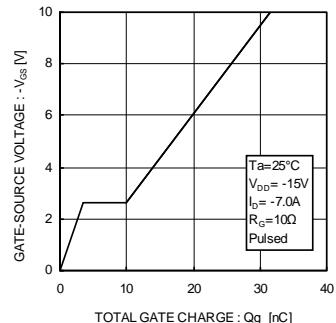
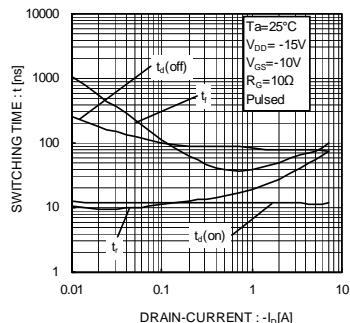
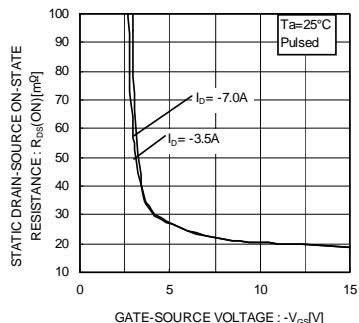
&lt;It is the same characteristics for the Tr1 and Tr2.&gt;

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Forward voltage	$V_{SD}^*$	—	—	—1.2	V	$I_S=-7A, V_{GS}=0V$

\*Pulsed

● Electrical characteristic curves





● Measurement circuits

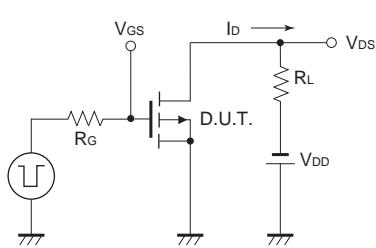


Fig.16 Switching Time Test Circuit

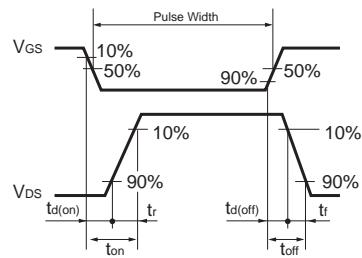


Fig.17 Switching Time Waveforms

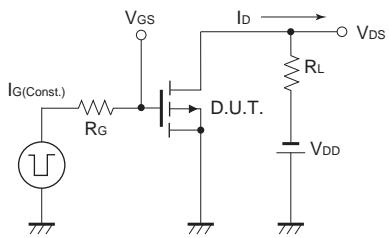


Fig.18 Gate Charge Test Circuit

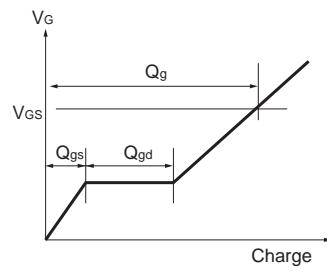


Fig.19 Gate Charge Waveform

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## SH8J65 - Web Page

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Part Number	SH8J65
Package	SOP8
Unit Quantity	2500
Minimum Package Quantity	2500
Packing Type	Taping
Constitution Materials List	<a href="#">inquiry</a>
RoHS	Yes