2.5V Drive Pch+Pch MOS FET

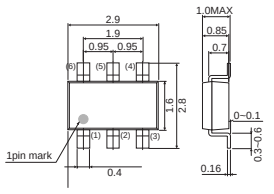
QS6J3

●Structure
Silicon P-channel MOS FET

●Features
1) Two Pch MOS FET transistors in a single TSMT6 package.
2) Low on-state resistance with a fast switching.
3) Low voltage drive (2.5V).

●External dimensions (Unit : mm)

TSMT6

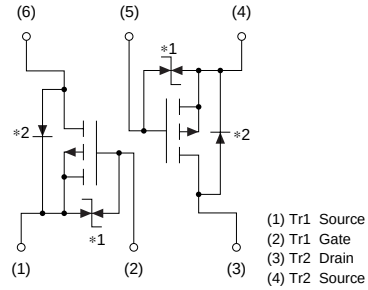


Each lead has same dimensions

Abbreviated symbol : J03

●Applications
Switching

●Inner circuit



∗1 ESD PROTECTION DIODE
∗2 BODY DIODE

●Packaging specifications

Type	Package	Taping
	Code	TR
	Basic ordering unit (pieces)	3000
QS6J3		○

●Absolute maximum ratings (Ta=25°C)
<It is the same ratings for Tr1 and Tr2 >

Parameter		Symbol	Limits	Unit
Drain-source voltage		V_{DSS}	−20	V
Gate-source voltage		V_{GSS}	±12	V
Drain current	Continuous	I_D	±1.5	A
	Pulsed	I_{DP} ∗1	±6.0	A
Source current (Body diode)	Continuous	I_S ∗1	−0.75	A
	Pulsed	I_{SP}	−6.0	A
Total power dissipation		P_D ∗2	1.25	W / TOTAL
			0.9	W / ELEMENT
Channel temperature		Tch	150	°C
Range of Storage temperature		Tstg	−55 to +150	°C

∗1 Pw≤10µs, Duty cycle≤1% ∗2 Mounted on a ceramic board

●Thermal resistance

Parameter	Symbol	Limits	Unit
Channel to ambient	Rth (ch-a) ∗	100	°C / W / TOTAL
		139	°C / W / ELEMENT

∗ Mounted on a ceramic board

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

<It is the same characteristics for Tr1 and Tr2. MOS FET>

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Gate-source leakage	I_{GSS}	–	–	±10	μA	V_{GS}=±12V, V_{DS}=0V
Drain-source breakdown voltage	$V_{(BR)\ DSS}$	–20	–	–	V	I_D= –1mA, V_{GS}=0V
Zero gate voltage drain current	I_{DSS}	–	–	–1	μA	V_{DS}= –20V, V_{GS}=0V
Gate threshold voltage	$V_{GS\ (th)}$	–0.7	–	–2.0	V	V_{DS}= –10V, I_D= –1mA
Static drain-source on-state resistance	$R_{DS\ (on)}$ *	–	155	215	mΩ	I_D= –1.5A, V_{GS}= –4.5V
		–	170	235	mΩ	I_D= –1.5A, V_{GS}= –4V
		–	310	430	mΩ	I_D= –0.75A, V_{GS}= –2.5V
Forward transfer admittance	$\|Y_{fs}\|$ *	1.0	–	–	S	V_{DS}= –10V, I_D= –0.75A
Input capacitance	C_{iss}	–	270	–	pF	V_{DS}= –10V
Output capacitance	C_{oss}	–	40	–	pF	V_{GS}=0V
Reverse transfer capacitance	C_{rss}	–	35	–	pF	f=1MHz
Turn-on delay time	$t_{d\ (on)}$ *	–	10	–	ns	I_D= –0.75A V_{DD}≒ –15V V_{GS}= –4.5V R_L=20Ω R_G=10Ω
Rise time	t_r *	–	12	–	ns	
Turn-off delay time	$t_{d\ (off)}$ *	–	45	–	ns	
Fall time	t_f *	–	20	–	ns	
Total gate charge	Q_g *	–	3.0	–	nC	V_{DD}≒ –15V R_L=10Ω
Gate-source charge	Q_{gs} *	–	0.8	–	nC	V_{GS}= –4.5V R_G=10Ω
Gate-drain charge	Q_{gd} *	–	0.85	–	nC	I_D= –1.5A

*Pulsed

<Body diode (Source-drain)>

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Forward voltage	V_{SD}	–	–	–1.2	V	I_S= –0.75A, V_{GS}=0V

●**Electrical characteristic curves**

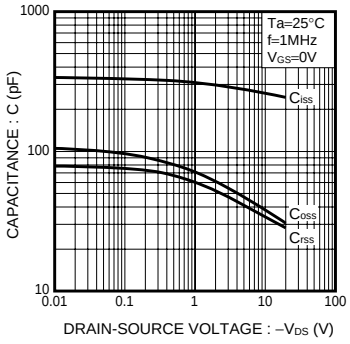


Fig.1 Typical Capacitance vs. Drain-Source Voltage

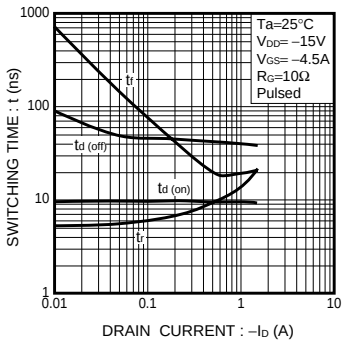


Fig.2 Switching Characteristics

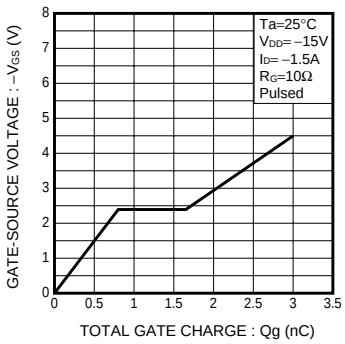


Fig.3 Dynamic Input Characteristics

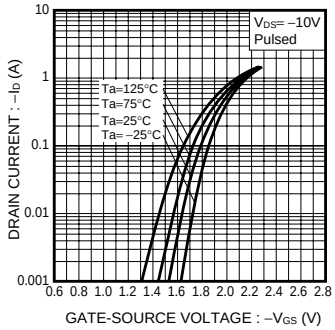


Fig.4 Typical Transfer Characteristics

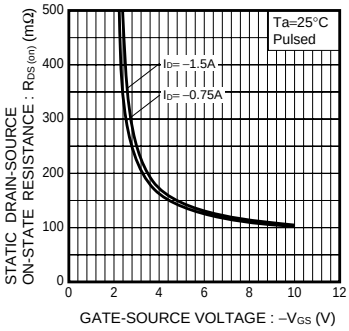


Fig.5 Static Drain-Source On-State Resistance vs. Gate-Source Voltage

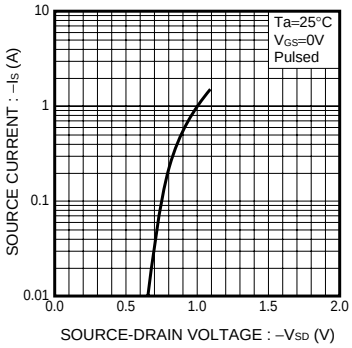


Fig.6 Source Current vs. Source-Drain Voltage

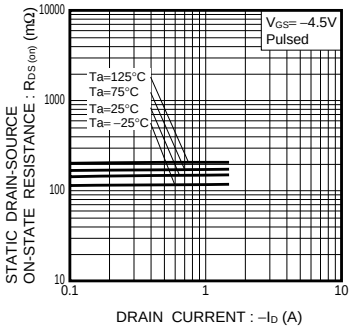


Fig.7 Static Drain-Source On-State Resistance vs. Drain Current (I)

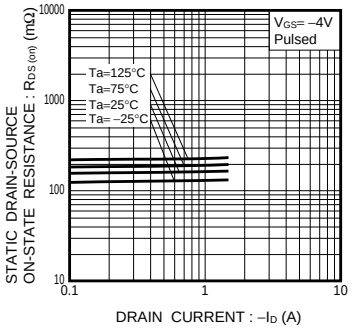


Fig.8 Static Drain-Source On-State Resistance vs. Drain Current (II)

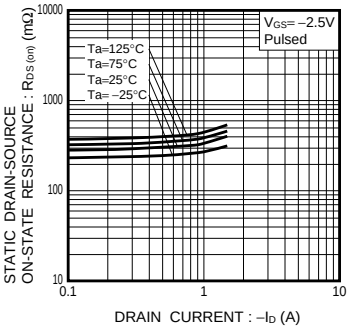


Fig.9 Static Drain-Source On-State Resistance vs. Drain Current (III)

●**Measurement circuits**

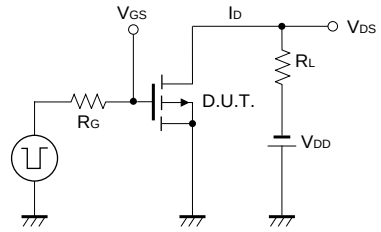


Fig.10 Switching Time Measurement Circuit

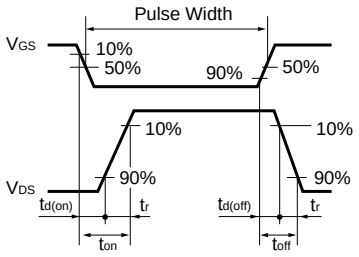


Fig.11 Switching Waveforms

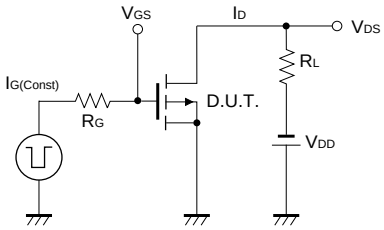


Fig.12 Gate Charge Measurement Circuit

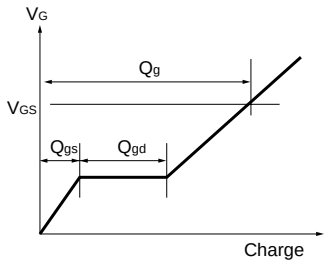


Fig.13 Gate Charge Waveform

Notes

- No technical content pages of this document may be reproduced in any form or transmitted by any means without prior permission of ROHM CO.,LTD.
- The contents described herein are subject to change without notice. The specifications for the product described in this document are for reference only. Upon actual use, therefore, please request that specifications to be separately delivered.
- Application circuit diagrams and circuit constants contained herein are shown as examples of standard use and operation. Please pay careful attention to the peripheral conditions when designing circuits and deciding upon circuit constants in the set.
- Any data, including, but not limited to application circuit diagrams information, described herein are intended only as illustrations of such devices and not as the specifications for such devices. ROHM CO.,LTD. disclaims any warranty that any use of such devices shall be free from infringement of any third party's intellectual property rights or other proprietary rights, and further, assumes no liability of whatsoever nature in the event of any such infringement, or arising from or connected with or related to the use of such devices.
- Upon the sale of any such devices, other than for buyer's right to use such devices itself, resell or otherwise dispose of the same, no express or implied right or license to practice or commercially exploit any intellectual property rights or other proprietary rights owned or controlled by
- ROHM CO., LTD. is granted to any such buyer.
- Products listed in this document are no antiradiation design.

The products listed in this document are designed to be used with ordinary electronic equipment or devices (such as audio visual equipment, office-automation equipment, communications devices, electrical appliances and electronic toys).
Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative in advance.

About Export Control Order in Japan

Products described herein are the objects of controlled goods in Annex 1 (Item 16) of Export Trade Control Order in Japan.
In case of export from Japan, please confirm if it applies to "objective" criteria or an "informed" (by MITI clause) on the basis of "catch all controls for Non-Proliferation of Weapons of Mass Destruction.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for MOSFET ***category:***

Click to view products by ROHM ***manufacturer:***

Other Similar products are found below :

614233C 648584F IRFD120 JANTX2N5237 FCA20N60_F109 FDZ595PZ 2SK2545(Q,T) 405094E 423220D TPCC8103,L1Q(CM MIC4420CM-TR VN1206L SBVS138LT1G 614234A 715780A NTNS3166NZT5G SSM6J414TU,LF(T 751625C BUK954R8-60E NTE6400 SQJ402EP-T1-GE3 2SK2614(TE16L1,Q) 2N7002KW-FAI DMN1017UCP3-7 EFC2J004NUZTDG ECH8691-TL-W FCAB21350L1 P85W28HP2F-7071 DMN1053UCP4-7 NTE221 NTE2384 NTE2903 NTE2941 NTE2945 NTE2946 NTE2960 NTE2967 NTE2969 NTE2976 NTE455 NTE6400A NTE2910 NTE2916 NTE2956 NTE2911 DMN2080UCB4-7 TK10A80W,S4X(S SSM6P69NU,LF DMP22D4UFO-7B DMN1006UCA6-7