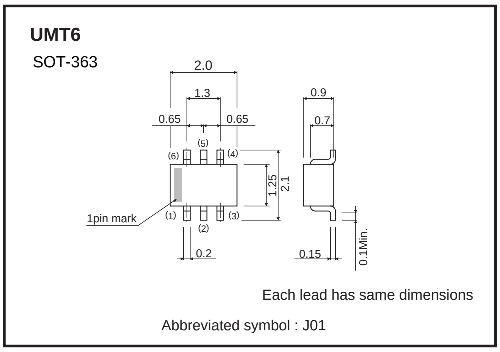
Data Sheet

4V Drive Pch MOSFET

UM6J1N

●Structure
Silicon P-channel MOSFET

●Dimensions (Unit : mm)



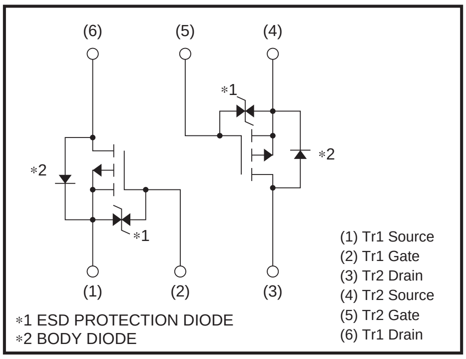
●Features
1) Two RSU002P03 transistors in a single UMT package.
2) The MOSFET elements are independent, eliminating mutual interference.
3) Mounting cost and area can be cut in half.

●Applications
Switching

●Packaging specifications

Type	Package	Taping
	Code	TN
	Basic ordering unit (pieces)	3000
UM6J1N		○

●Inner circuit



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

Parameter		Symbol	Limits	Unit
Drain-source voltage		V_{DSS}	−30	V
Gate-source voltage		V_{GSS}	±20	V
Drain current	Continuous	I_D	±0.2	A
	Pulsed	I_{DP} *1	±0.4	A
Total power dissipation		P_D *2	150	mW / TOTAL
			120	mW / ELEMENT
Channel temperature		Tch	150	°C
Range of storage temperature		Tstg	−55 to +150	°C

*1 Pw≤10µs, Duty cycle≤1%
*2 Each terminal mounted on a recommended land

●Thermal resistance

Parameter	Symbol	Limits	Unit
Channel to ambient	Rth(ch-a)*	833	°C/W / TOTAL
		1042	°C/W / ELEMENT

* Each terminal mounted on a recommended land

●Electrical characteristics (Ta=25°C)

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Gate-source leakage	I_{GSS}	–	–	±10	μA	V_{GS}=±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	μA	V_{DS}= –30V, V_{GS}=0V
Gate threshold voltage	$V_{GS\,(th)}$	–1.0	–	–2.5	V	V_{DS}= –10V, I_D= –1mA
Static drain-source on-state resistance	$R_{DS\,(on)}$ *	–	0.9	1.4	Ω	I_D= –0.2A, V_{GS}= –10V
		–	1.4	2.1	Ω	I_D= –0.15A, V_{GS}= –4.5V
		–	1.6	2.4	Ω	I_D= –0.15A, V_{GS}= –4V
Forward transfer admittance	$\lvert Y_{fs} \rvert$ *	0.2	–	–	S	V_{DS}= –10V, I_D= –0.15A
Input capacitance	C_{iss}	–	30	–	pF	V_{DS}= –10V
Output capacitance	C_{oss}	–	4	–	pF	V_{GS}=0V
Reverse transfer capacitance	C_{rss}	–	5	–	pF	f=1MHz
Turn-on delay time	$t_{d\,(on)}$ *	–	8	–	ns	V_{DD}≒ –15V
Rise time	t_r *	–	5	–	ns	I_D= –0.15A
Turn-off delay time	$t_{d\,(off)}$ *	–	30	–	ns	V_{GS}= –10V, R_L≒100Ω
Fall time	t_f *	–	40	–	ns	R_G=10Ω

* Pulsed

●Body diode characteristics (source-drain)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Forward voltage	V_{SD} *	–	–	–1.2	V	I_S= –0.1A, V_{GS}=0V

*Pulsed

●Electrical characteristic curves

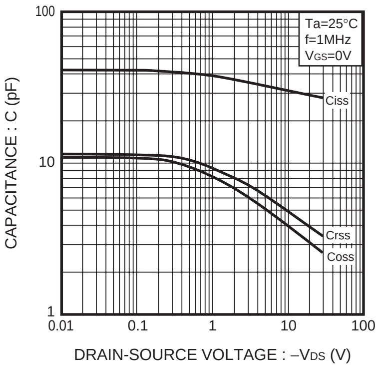


Fig.1 Typical Capacitance vs. Drain-Source Voltage

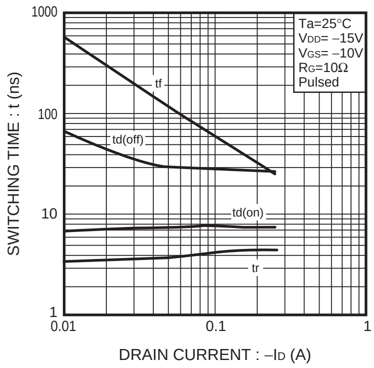


Fig.2 Switching Characteristics

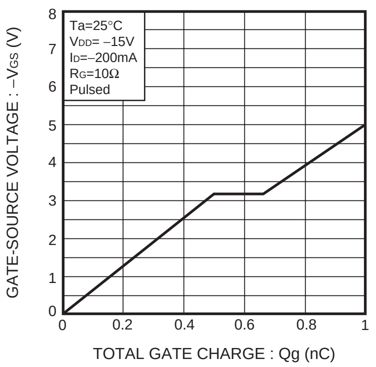


Fig.3 Dynamic Input Characteristics

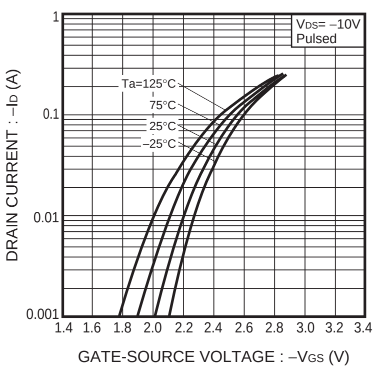


Fig.4 Typical Transfer Characteristics

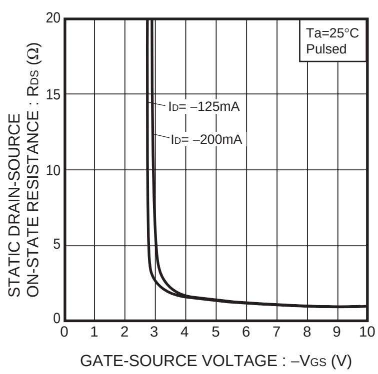


Fig.5 Static Drain-Source On-State Resistance vs. Gate-Source Voltage

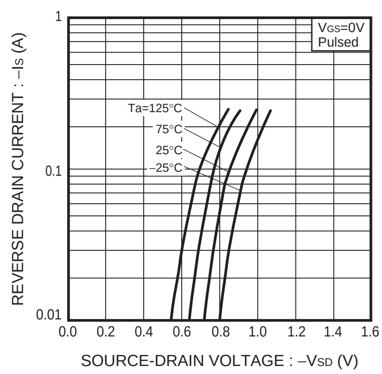


Fig.6 Reverse Drain Current vs. Source-Drain Voltage

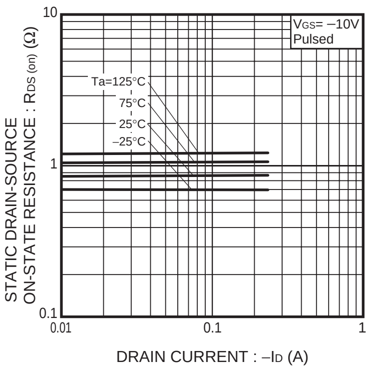


Fig.7 Static Drain-Source On-State Resistance vs. Drain Current (I)

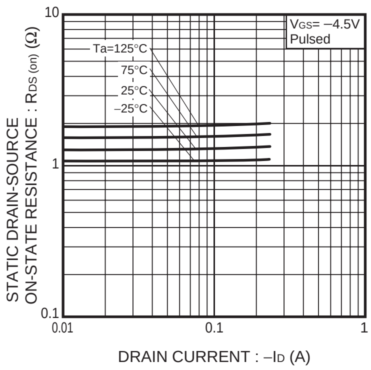


Fig.8 Static Drain-Source On-State Resistance vs. Drain Current (II)

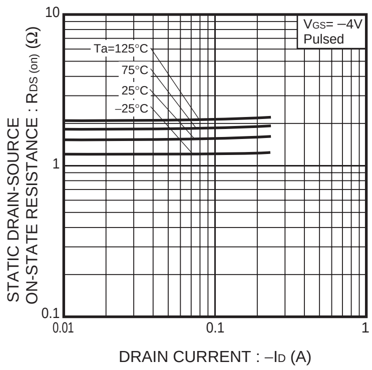


Fig.9 Static Drain-Source On-State Resistance vs. Drain Current (III)

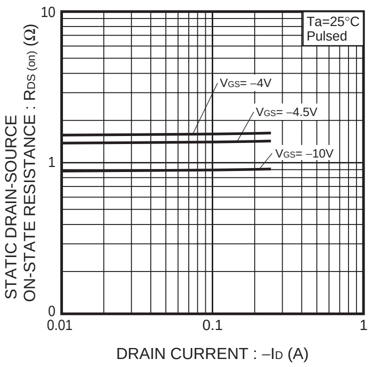


Fig.10 Static Drain-Source On-State Resistance vs. Drain Current (IV)

●**Notice**

This product might cause chip aging and breakdown under the large electrified environment.
Please consider to design ESD protection circuit.

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