RU1C002UN

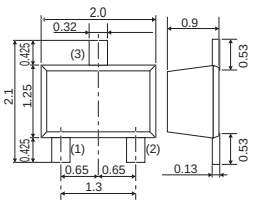
● Structure
TY N-channel MOSFET

● Features
1) Low on-resistance.
2) Low voltage drive(1.2V drive).

● Application
Switching

● Dimensions (Unit : mm)

UMT3F



Abbreviated symbol : QR

● Packaging specifications

Type	Package	Taping
	Code	TCL
	Basic ordering unit (pieces)	3000
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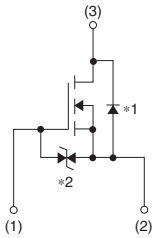
● Inner circuit



(1) Gate
(2) Source
(3) Drain

∗1 BODY DIODE
∗2 ESD PROTECTION DIODE

● Absolute maximum ratings (Ta = 25°C)

Parameter		Symbol	Limits	Unit
Drain-source voltage		V_{DSS}	20	V
Gate-source voltage		V_{GSS}	±8	V
Drain current	Continuous	I_D	±200	mA
	Pulsed	I_{DP} *1	±400	mA
Power dissipation		P_D *2	150	mW
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 reference land.

● Thermal resistance

Parameter	Symbol	Limits	Unit
Channel to Ambient	Rth (ch-a)*	833	°C / W

* Each terminal mounted on a reference land.

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Gate-source leakage	I_{GSS}	-	-	±10	μA	V_{GS}=±8V, 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	$V_{GS\ (th)}$	0.3	-	1.0	V	V_{DS}=10V, I_D=1mA
Static drain-source on-state resistance	$R_{DS\ (on)}$ *	-	0.8	1.2	Ω	I_D=200mA, V_{GS}=2.5V
		-	1.0	1.4		I_D=200mA, V_{GS}=1.8V
		-	1.2	2.4		I_D=40mA, V_{GS}=1.5V
		-	1.6	4.8		I_D=20mA, V_{GS}=1.2V
Forward transfer admittance	$\|Y_{fs}\|$ *	400	-	-	mS	V_{DS}=10V, I_D=200mA
Input capacitance	C_{iss}	-	25	-	pF	V_{DS}=10V
Output capacitance	C_{oss}	-	10	-	pF	V_{GS}=0V
Reverse transfer capacitance	C_{rss}	-	10	-	pF	f=1MHz
Turn-on delay time	$t_{d(on)}$ *	-	5	-	ns	V_{DD}≒10V, I_D=150mA
Rise time	t_r *	-	10	-	ns	V_{GS}=4.0V
Turn-off delay time	$t_{d(off)}$ *	-	15	-	ns	R_L=68Ω
Fall time	t_f *	-	10	-	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=100mA, V_{GS}=0V

*Pulsed