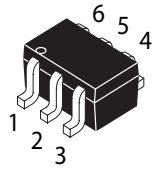
WEITRON

2N7002KDW

Dual N-Channel MOSFET

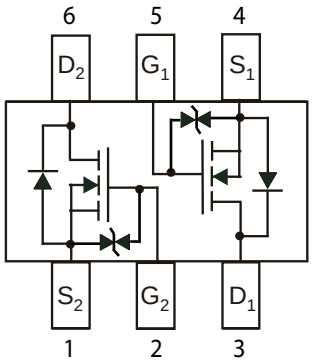
Lead(Pb)-Free



SOT-363(SC-88)

Features:

* Low On-Resistance
* Fast Switching Speed
* Low-voltage drive
* Easily designed drive circuits
* ESD Protected:2000V



Mechanical Data:

*Case: SOT-363, Molded Plastic
*Case Material-UL Flammability Rating 94V-0
*Terminals: Solderable per MIL-STD-202, Method 208
*Weight: 0.006 grams(approx.)

Maximum Ratings (TA=25°C Unless Otherwise Specified)

Rating		Symbol	Value	Unit
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage		V_{GS}	±20	V
Drain Current	Continuous	I_D	115	mA
	Pulsed	I_{DP}*1	800	
Reverse Drain Current	Continuous	I_D	115	mA
	Pulsed	I_{DRP}*1	800	
Power Dissipation (TA=25°C)		P_D	225	mW
Operating Junction and Storage Temperature Range		T_J, Tstg	-55 to 150	°C

Device Marking

2N7002KDW=RK

Note
*1 Pw ≤ 10 μs, Duty cycle ≤ 1 %
*2 When mounted on a 1*0.75*0.062 inch glass epoxy board

Electrical Characteristics @ T_A=25 unless otherwise specified,per element

Characteristic	Symbol	Min	Typ	MAX	Unit

OFF CHARACTERISTICS

Drain-Source Breakdown Voltage	V_{GS}=0V, I_D=10μA	$V_{(BR)DSS}$	60	-	-	V
Zero Gate Voltage Drain Current	V_{DS}=60V, V_{GS}=0V	I_{DSS}	-	-	1.0	μA
Gate-source Leakage	V_{GS}=±20V, V_{DS}=0V	I_{GSS}	-	-	±10	μA

ON CHARACTERISTICS

Gate Threshold Voltage	VDS= VGS,ID = 250uA	$V_{GS(th)}$	1.0	1.85	2.5	V
Static Drain-Source On-Resistance	V_{GS}=10V, I_D =0.5A	$R_{DS(ON)}$	-	-	7.5	Ω
	V_{GS}=5V, I_D=0.05A		-	-	7.5	
Forward transfer admittance	V_{DS}=10V, I_D=0.2A	g_{fs} *	80	-	-	mS

DYNAMIC CHARACTERISTICS

Input Capacitance	V_{DS}=25V	C_{iSS}	-	25	50	pF
Output Capacitance	V_{GS}=0V	C_{OSS}	-	10	25	pF
Reverse Transfer Capacitance	f=1.0MHz	C_{rSS}	-	3.0	5.0	pF

SWITCHING CHARACTERISTICS

Turn-On Delay Time	I_D=0.2A,V_{DD}=30V,	$T_{D(ON)}$ *	-	12	20	nS
Turn-Off Delay Time	V_{GS}=10V,RL=150Ω,RG=10Ω	$T_{D(OFF)}$*	-	20	30	nS

* Pw ≤ 300μs, Duty cycle ≤ 1%

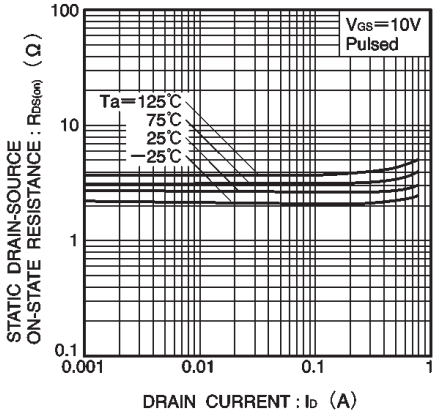


Fig.4 Static drain-source on-state resistance vs. drain current (Ⅰ)

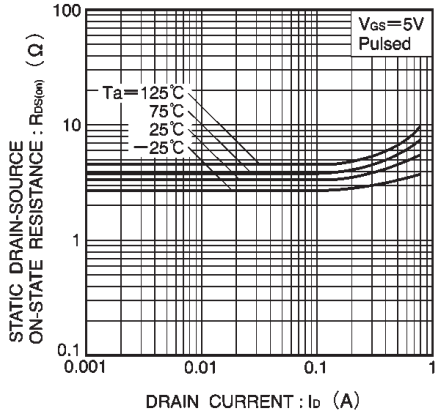


Fig.5 Static drain-source on-state resistance vs. drain current (Ⅱ)

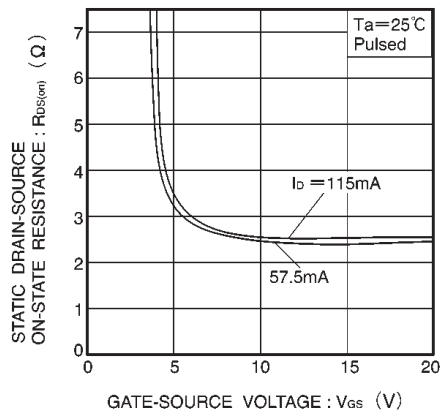


Fig.6 Static drain-source on-state resistance vs. gate-source voltage

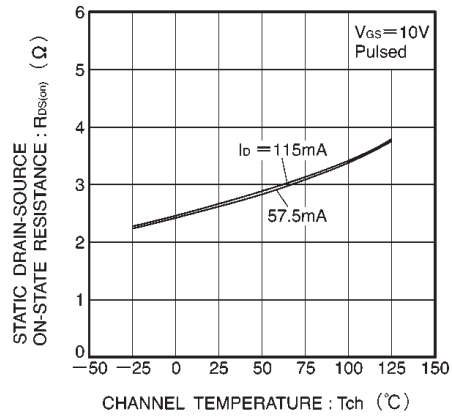


Fig.7 Static drain-source on-state resistance vs. channel temperature

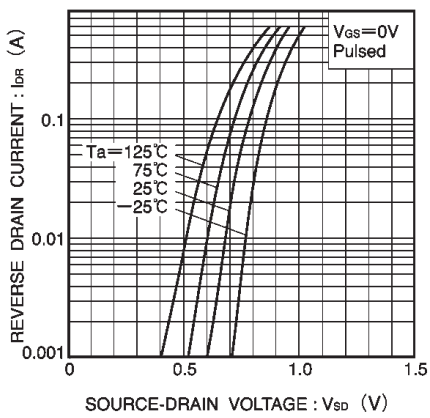


Fig.8 Reverse drain current vs. source-drain voltage (Ⅰ)

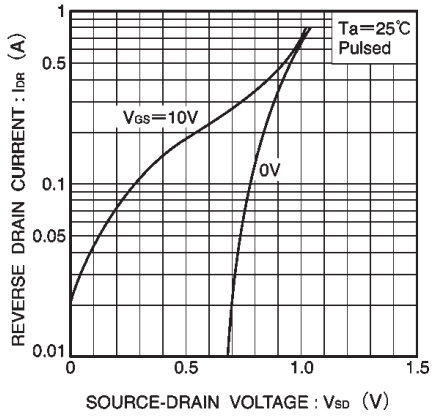


Fig.9 Reverse drain current vs. source-drain voltage (Ⅱ)

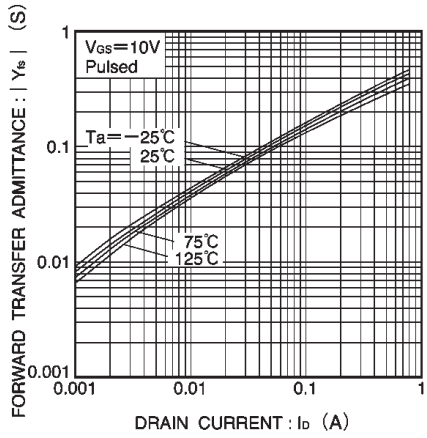


Fig.10 Forward transfer admittance vs. drain current

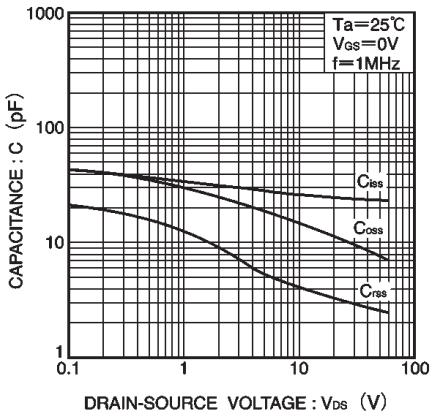


Fig.11 Typical capacitance vs. drain-source voltage

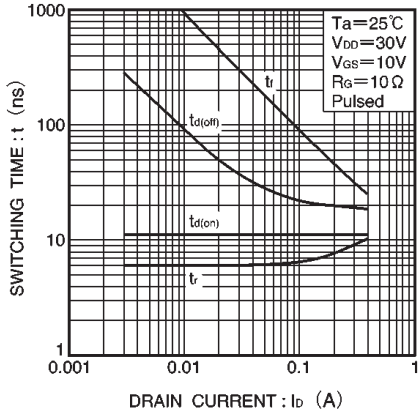
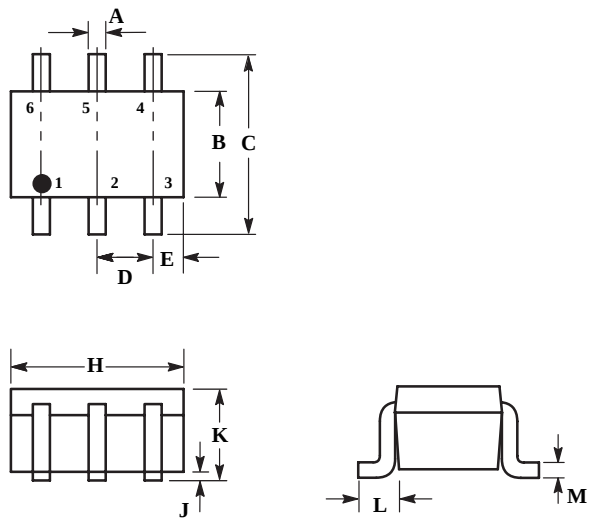


Fig.12 Switching characteristics
(See Figures 13 and 14 for the measurement circuit and resultant waveforms)

SOT-363 Outline Dimensions

Unit:mm



SOT-363		
Dim	**Min**	**Max**
A	0.10	0.30
B	1.15	1.35
C	2.00	2.20
D	0.65 REF	
E	0.30	0.40
H	1.80	2.20
J	-	0.10
K	0.80	1.10
L	0.25	0.40
M	0.10	0.25