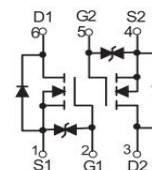
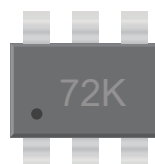


PRIMARY CHARACTERISTICS

BV_{DSS}	$R_{DS(ON)MAX}$	I_D
60V	$5.3\Omega @ V_{GS}=4.5V$	340mA
	$5.0\Omega @ V_{GS}=10V$	

SOT-363
PACKAGE
Marking : 72K

FEATURES

- High density cell design for low $R_{DS(ON)}$
- Voltage controlled small signal switch
- Rugged and reliable
- ESD protected

MECHANICAL DATA

- Case : Molded plastic,SOT-363
- Polarity : Shown above
- Terminals :Plated terminals, solderable per MIL-STD-750,Method 2026
- Epoxy : UL94-V0 rated flame retardant

MAXIMUM RATINGS ($T_a = 25^\circ C$)

Symbol	Parameter	Value	Units
V_{DS}	Drain-source Voltage	60	V
V_{GS}	Gate-source-Voltage	± 20	V
I_D	Drain Current	340	mA
P_d	Total Power Dissipation	150.	mW
T_J	Junction Temperature	150	$^\circ C$
$T_{STG.}$	Storage Temperature	-55 to 150	$^\circ C$
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	820	$^\circ C/W$

ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
$V_{(BR)Dss}$	Drain-source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	60			V
$V_{GS(th)}$	Gate-Threshold Voltage (note 1)	$V_{DS}=V_{GS}, I_D=1mA$	1.0		2.5	V
I_{GSS}	Gate -body Leakage	$V_{DS}=0V, V_{GS}=\pm 20V$			± 10	μA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=48V, V_{GS}=0V$			1	μA
$R_{DS(on)}$	Drain-source On-resistance (note 1)	$V_{GS}=4.5V, I_D=200mA$ $V_{GS}=10V, I_D=500mA$			5.3 5.0	Ω
V_{SD}	Diode Forward Voltage (note 1)	$V_{GS}=0V, I_S=300mA$			1.5	V

Dynamic Characteristics

C_{iss}	Input Capacitance	$V_{DS}=10V$			40	pF
C_{oss}	Output Capacitance	$V_{GS}=0V$			30	
C_{rss}	Reverse Transfer Capacitance	$f=1MHz$			10	

Switching Characteristics

$t_d(on)$	Turn-on delay time	$V_{DD}=50V, V_{GS}=10V, R_L=250\Omega, R_{GS}=50\Omega, R_{GEN}=50\Omega$			10	ns
$t_d(off)$	Turn-off delay time				15	
t_{rr}	Reverse recovery Time	$V_{GS}=0V, I_S=300mA, V_R=25V, dI_S/dt=-100A/\mu s$		30		

Gate-Source Zener Diode

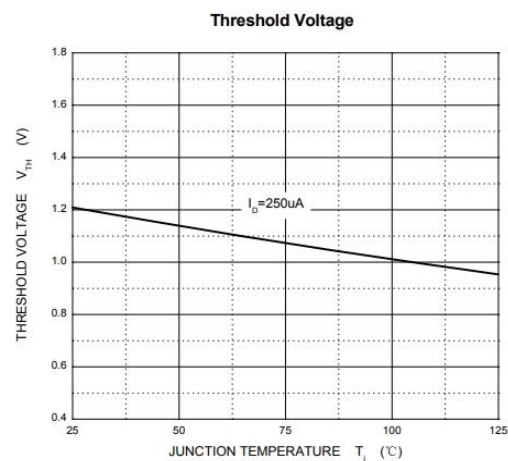
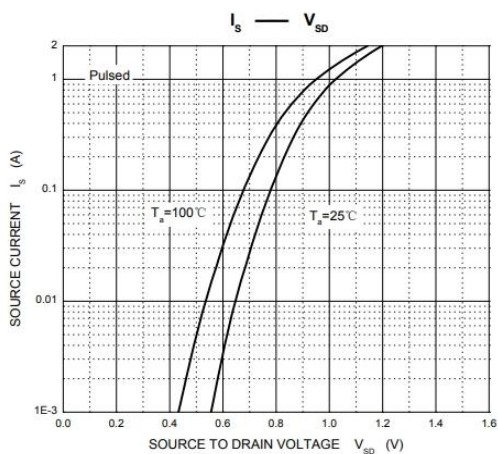
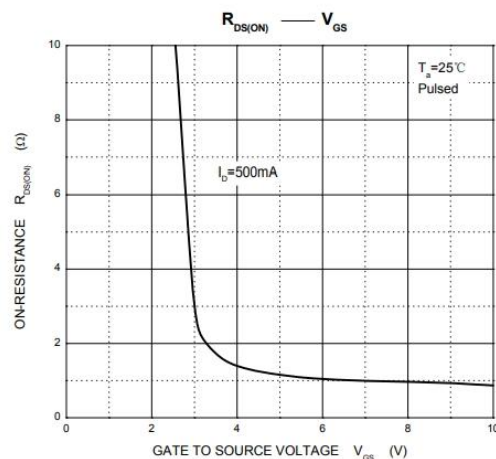
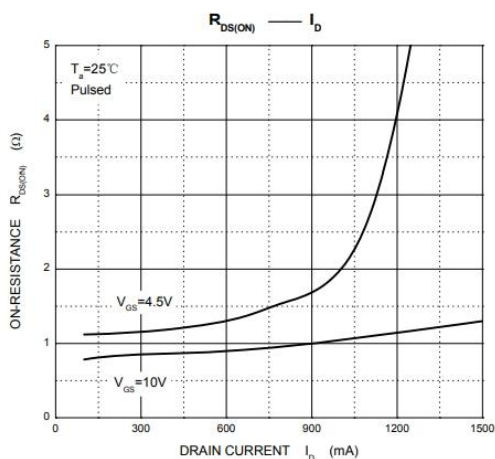
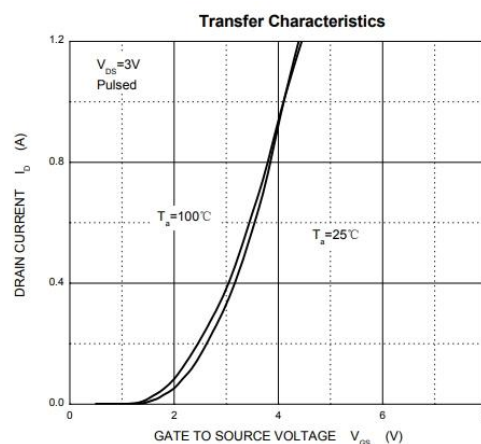
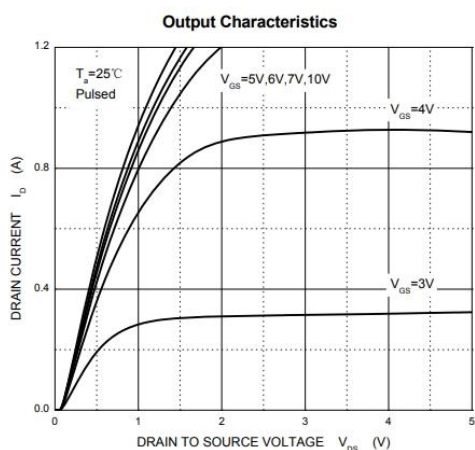
BV_{GSO}	Gate-Source Breakdown Voltage	$I_{GS}=\pm 1mA$ (Open Drain)	± 21.5		± 30	V
------------	-------------------------------	-------------------------------	------------	--	----------	---

Note:

1. Pulse Test : Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.

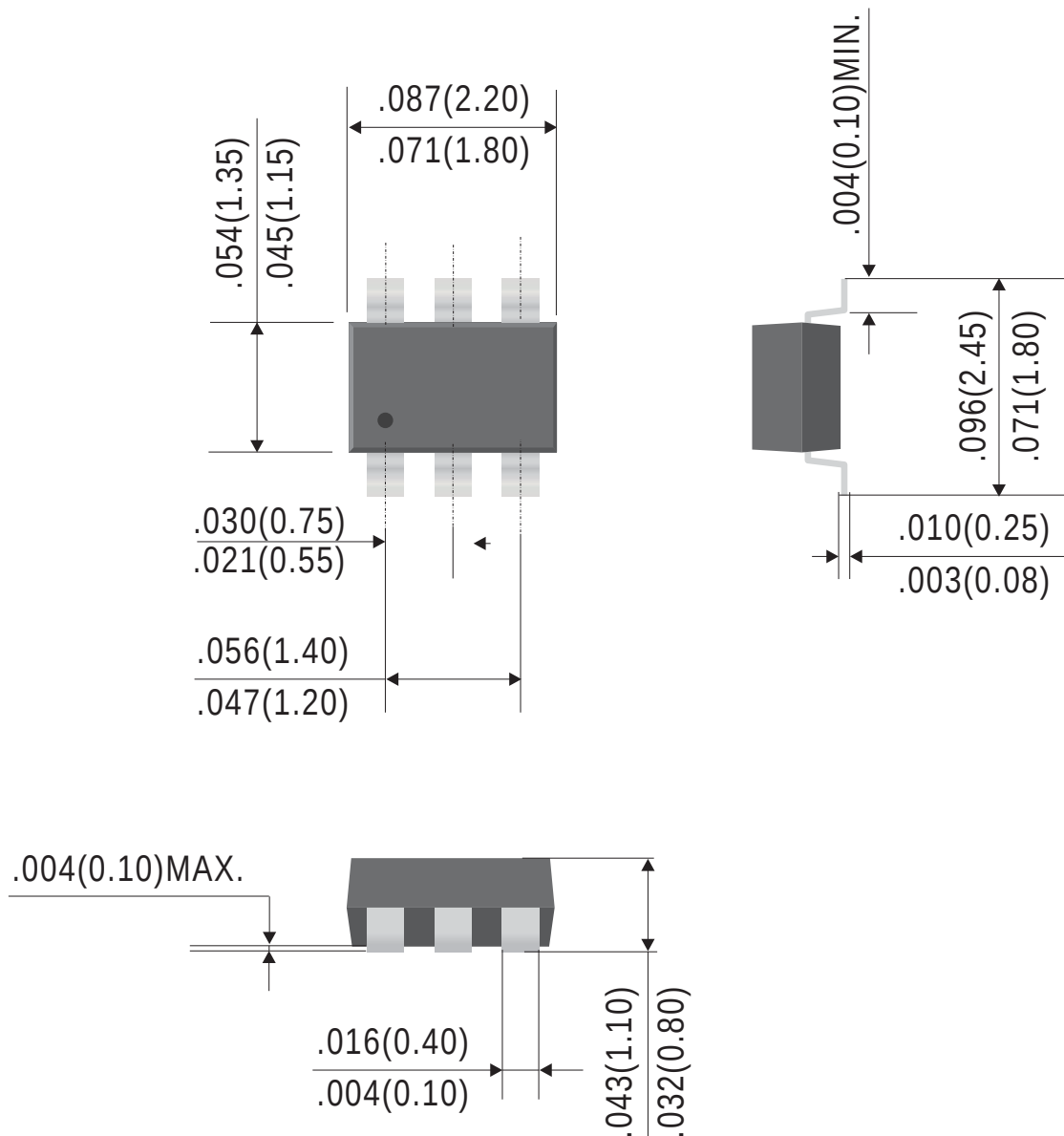


TYPICAL CHARACTERISTICS



Outline Drawing

SOT-363



Dimensions in inches and (millimeters)

Rev.D

Ordering Information:

Device PN	Packing
2N7002KDWN -T ⁽¹⁾ H ⁽²⁾ -WS ⁽³⁾	Tape&Reel: 3 Kpcs/Reel

Note: (1) Packing code, Tape & Reel Packing

(2) Halogen free product for packing code suffix "H"

(3) WS : Willas brand abbreviation, Label Type does not display

*****Disclaimer*****

WILLAS reserves the right to make changes without notice to any product specification herein, to make corrections, modifications, enhancements or other changes. WILLAS or anyone on its behalf assumes no responsibility or liability for any errors or inaccuracies. Data sheet specifications and its information contained are intended to provide a product description only. "Typical" parameters which may be included on WILLAS data sheets and/ or specifications can and do vary in different applications and actual performance may vary over time. WILLAS does not assume any liability arising out of the application or use of any product or circuit.

This is the preliminary specification. WILLAS products are not designed, intended or authorized for use in medical, life-saving implant or other applications intended for life-sustaining or other related applications where a failure or malfunction of component or circuitry may directly or indirectly cause injury or threaten a life without expressed written approval of WILLAS. Customers using or selling WILLAS components for use in such applications do so at their own risk and shall agree to fully indemnify WILLAS Inc and its subsidiaries harmless against all claims, damages and expenditures.