

340mA N-Channel Small Signal MOSFET - 60V
PRIMARY CHARACTERISTICS

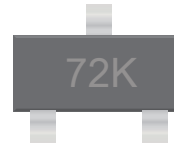
BV_{DSS}	$R_{DS(ON)MAX}$	I_D
60V	$3\Omega @ V_{GS}=4.5V$	340mA
	$2.5\Omega @ V_{GS}=10V$	

FEATURES

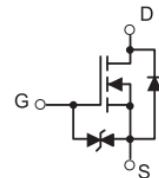
- High density cell design for low $R_{DS(ON)}$
- Voltage controlled small signal switch
- Rugged and reliable
- ESD Protected

SOT-323
PACKAGE

Marking :



1. GATE
2. SOURCE
3. DRAIN


MECHANICAL DATA

- Case : Molded plastic, SOT-323
- Polarity : Shown above
- Terminals : Plated terminals, solderable per MIL-STD-750, Method 2026
- Epoxy : UL94-V0 rated flame retardant

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

Symbol	Parameter	Value	Units
V_{DS}	Drain-source Voltage	60	V
V_{GS}	Gate-source Voltage	± 20	V
I_D	Continuous Drain Current	340	mA
P_d	Total Power Dissipation	200	mW
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55 to 150	$^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	625	$^\circ\text{C/W}$

340mA N-Channel Small Signal MOSFET - 60V
ELECTRICAL CHARACTERISTICS (T_a = 25 °C)
Static Characteristics

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
V _{(BR)Dss}	Drain-source Breakdown Voltage	V _{GS} =0V, I _D =250uA	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 Current	V _{DS} =0V, V _{GS} =±20V			±10	uA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =48V, V _{GS} =0V			1	uA
R _{DS(on)}	Drain-source On-resistance (note 1)	V _{GS} =4.5V, I _D =200mA V _{GS} =10V, I _D =500mA			3 2.5	Ω
V _{SD}	Diode Forward Voltage	V _{GS} =0V, I _S =300mA			1.5	V

Dynamic Characteristics

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

Switching Characteristics

t _{d(on)}	Turn-on delay time	V _{DD} =50V, V _{GS} =10V, R _L =250 Ω , R _{GS} =50 Ω , R _{GEN} =50 Ω			10	ns
t _{d(off)}	Turn-off delay time				15	

GATE-SOURCE ZENER DIODE

BV _{GSO}	Gate-Source Breakdown Voltage	I _{GS} =±1mA(Open Drain)	±21.5		±30	V
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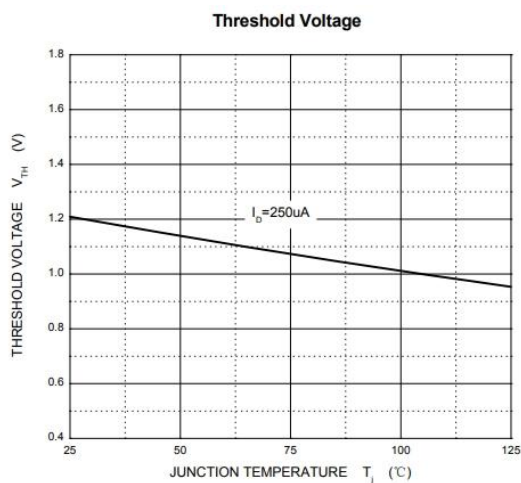
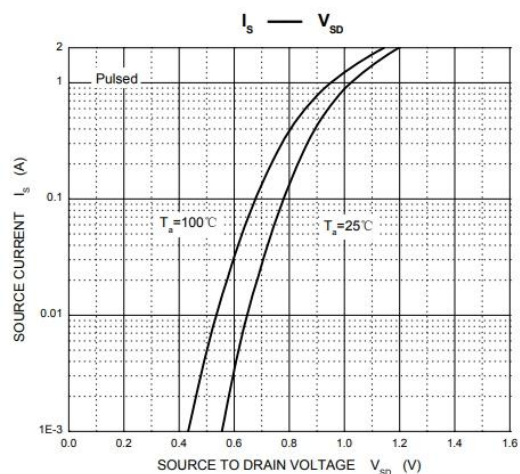
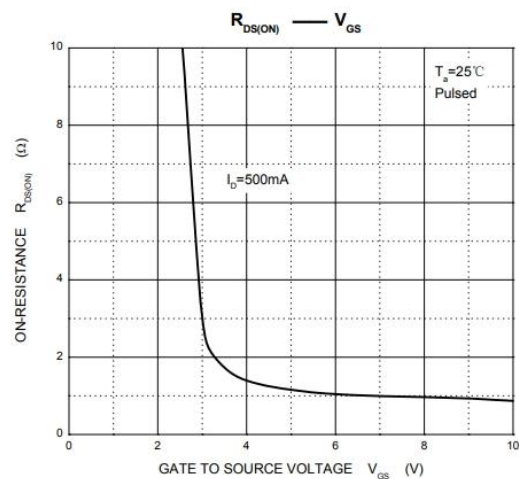
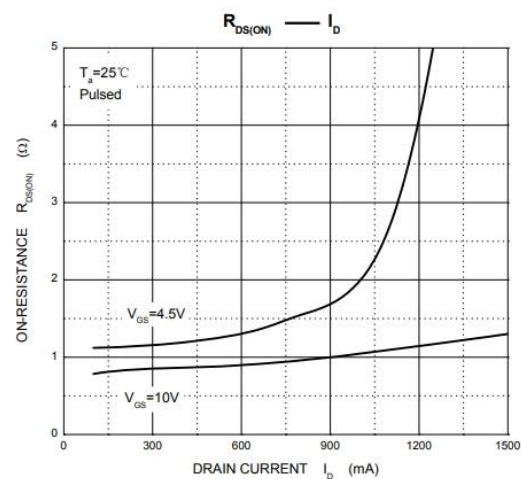
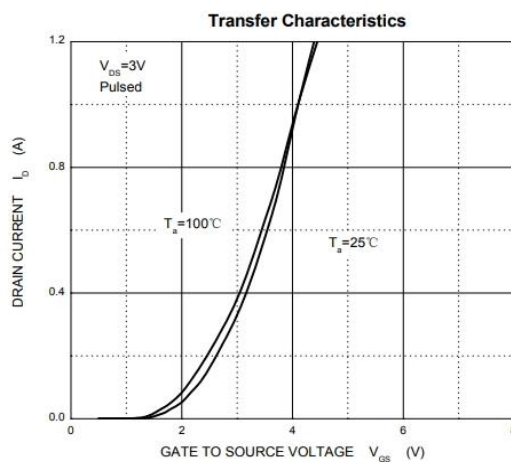
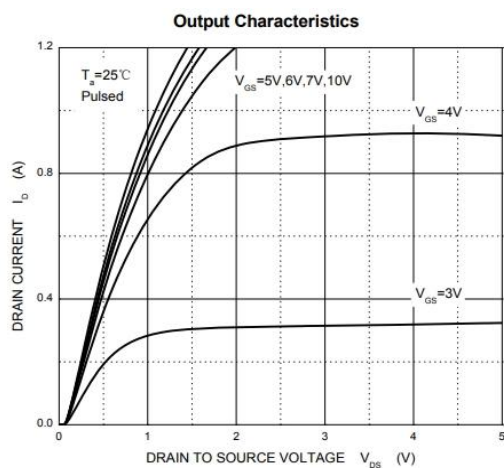
DRAIN-SOURCE DIODE

V _{SD}	Diode Forward Voltage(note 1)	I _S =300mA, V _{GS} = 0V			1.5	V
I _S	Continuous Diode Forward Current				0.2	A
I _{SM}	Pulsed Diode Forward Current				0.53	A

Note:

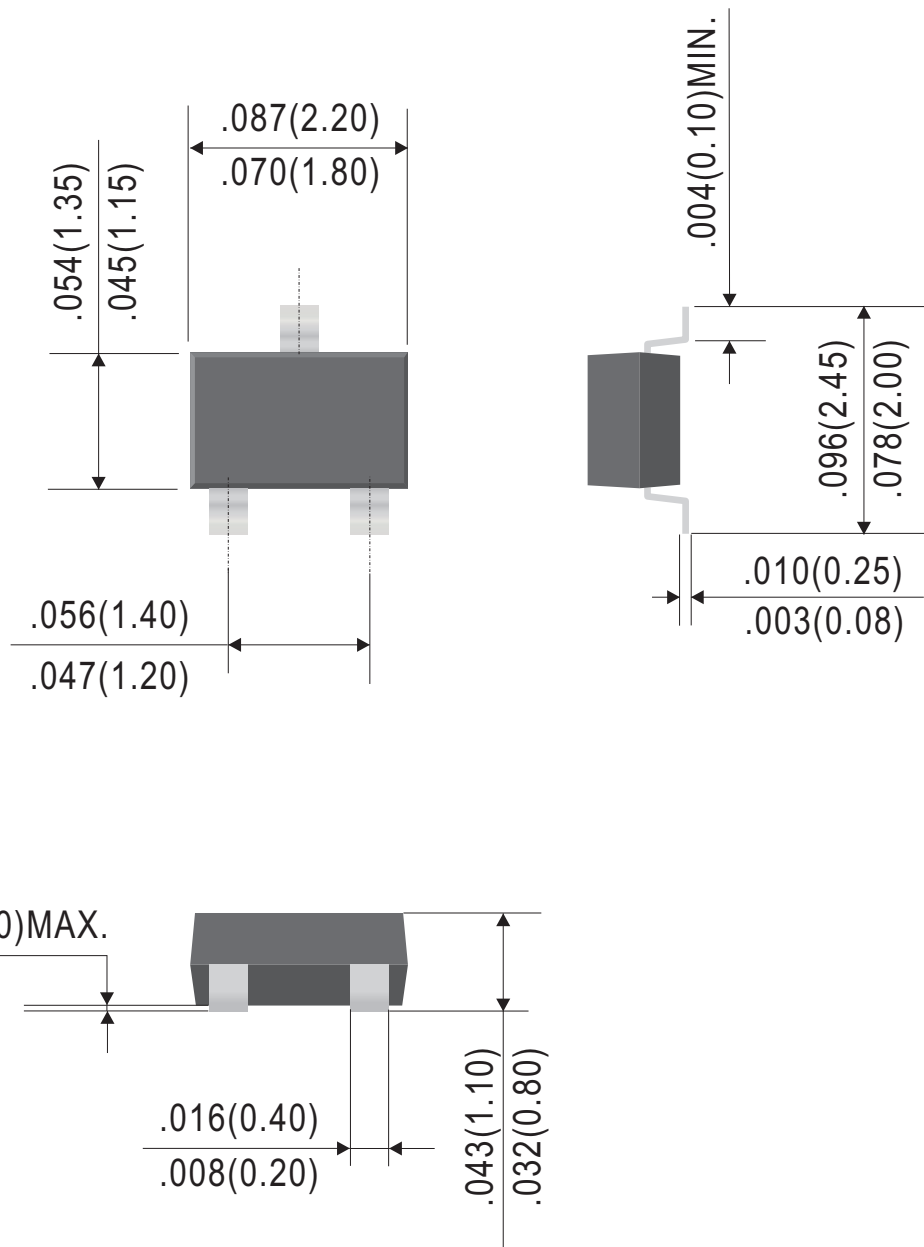
1. Pulse Test : Pulse width ≤ 300μs, duty cycle ≤ 2%.

TYPICAL CHARACTERISTICS



Outline Drawing

SOT-323



Dimensions in inches and (millimeters)

Rev.D

Ordering Information:

Device PN	Packing
2N7002KWN -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

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