RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

2N7002KBS3

N-Channel Mosfet

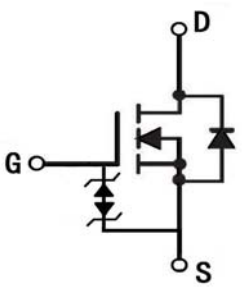
FEATURES

- $R_{DS(ON)} \leq 3\Omega$ @V_{GS}=10V
- $R_{DS(ON)} \leq 4\Omega$ @V_{GS}=4.5V

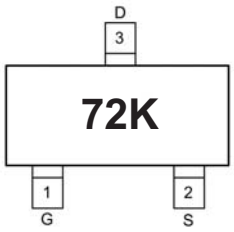
APPLICATIONS

- Power Management in Note book
- Portable Equipment
- Battery Powered System
- Halogen-free

N-CHANNEL MOSFET

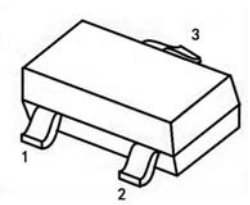


MARKING



72K : Device Code

SOT-323



1. GATE
2. SOURCE
3. DRAIN

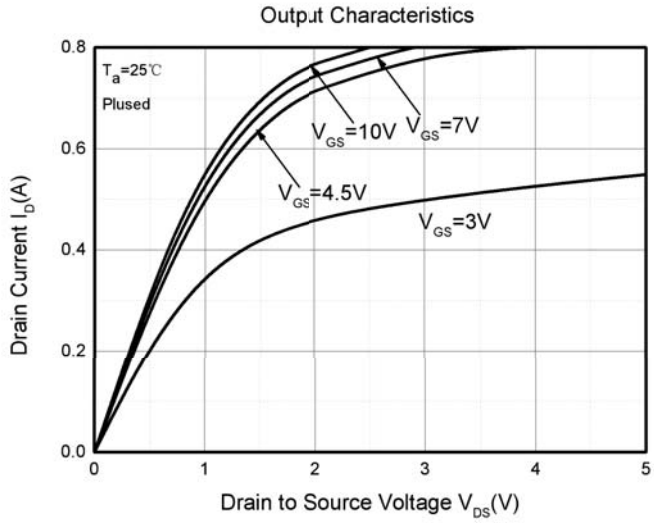
MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

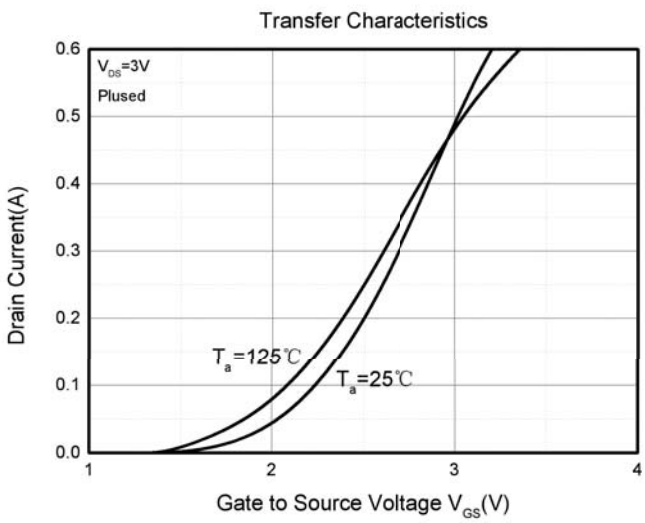
Symbol	Parameter	Max.	Units
V_{DSS}	Drain-Source Voltage	60	V
V_{GSS}	Gate-Source Voltage	±20	V
I_D	Continuous Drain Current	200	mA
I_{DM}	Pulsed Drain Current	800	mA
P_D	Power Dissipation	0.2	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	625	℃/W
T_J	Junction Temperature	150	℃
T_{STG}	Storage Temperature	-55 to +150	℃

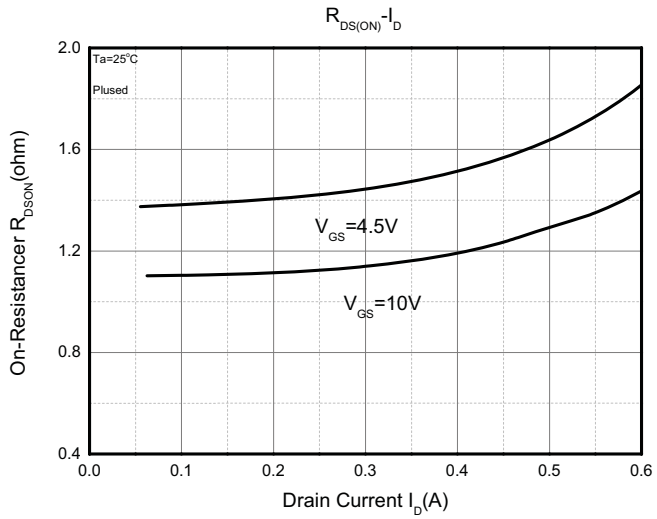
MOSFET ELECTRICAL CHARACTERISTICS Ta=25 °C unless otherwise specified

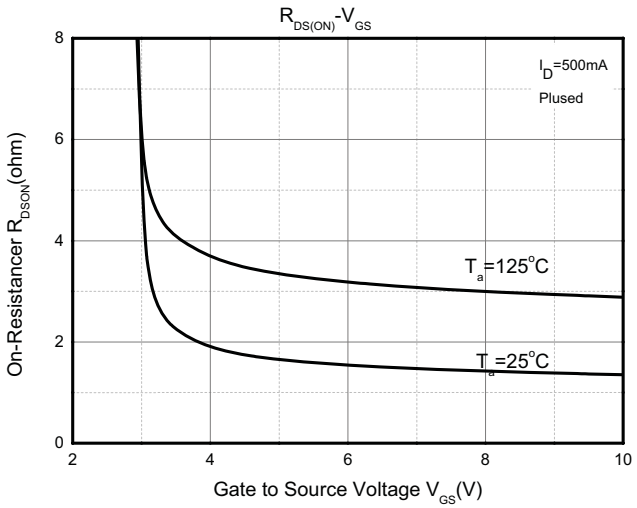
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristic						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	V_{GS} = 0V,I_D = 250μA	60	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS} = 60V, V_{GS} = 0V	-	-	1	μA
I_{GSS}	Gate to Body Leakage Current	V_{GS} = ±20V, V_{DS} =0V	-	-	±5	uA
On Characteristics						
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} =V_{GS},I_D = 250μA	1	1.5	2.5	V
$R_{DS(on)}$	Static Drain-Source On-Resistance	V_{GS} =10V, I_D =400mA	-	-	3	Ω
		V_{GS}= 4.5V, I_D= 300mA	-	-	4	
Dynamic Characteristics						
C_{iss}	Input Capacitance	V_{DS} = 25V, V_{GS} = 0V, f = 1.0MHz	-	30	50	pF
C_{oss}	Output Capacitance		-	4.2	25	pF
C_{rss}	Reverse Transfer Capacitance			2.9	5	pF
Q_g	Total Gate Charge	V_{DS} =10V, I_D=250mA V_{GS}=4.5V	-	0.3	-	nC
Q_{gs}	Gate-Source Charge		-	0.2	-	nC
Q_{gd}	Gate-Drain(“Miller”) Charge		-	0.08	-	nC
Switching Characteristics						
$t_{d(on)}$	Turn-On Delay Time	V_{DS}=30V , R_G =25Ω, I_D=200mA V_{GEN}=10V	-	3.9	-	ns
t_r	Turn-On Rise Time		-	3.4	-	ns
$t_{d(off)}$	Turn-Off Delay Time		-	15.7	-	ns
t_f	Turn-Off Fall Time		-	9.9	-	ns
Drain-Source Diode Characteristics and Maximum Ratings						
V_{SD}	Drain to Source Diode Forward Voltage	V_{GS} = 0V, I_S=200mA	-	0.82	1.3	V

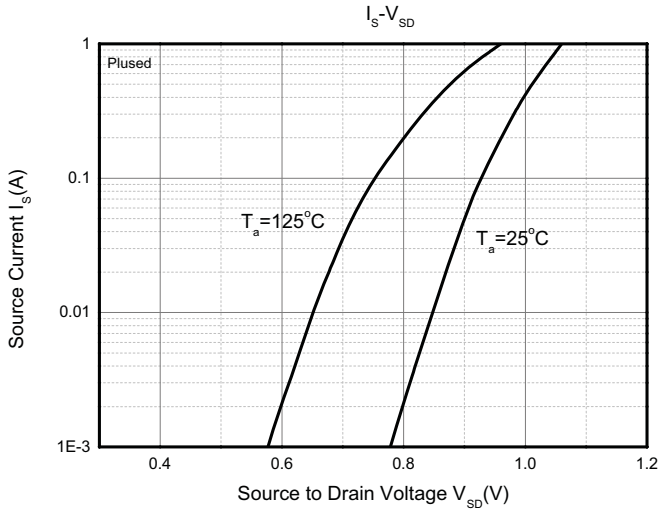
RATING AND CHARACTERISTICS CURVES (2N7002KBS3)

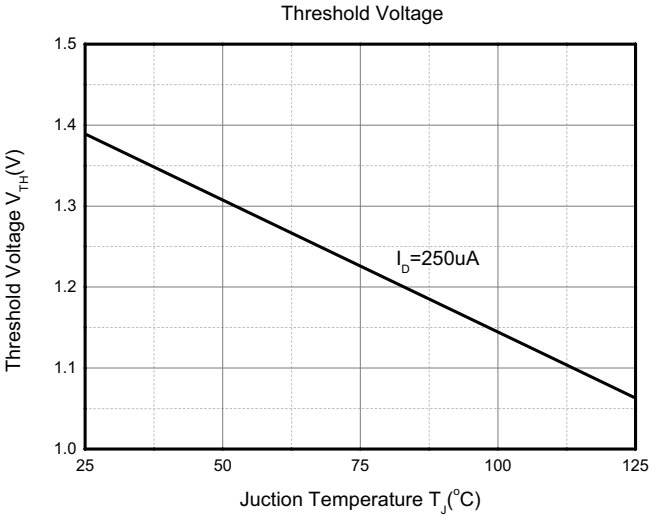




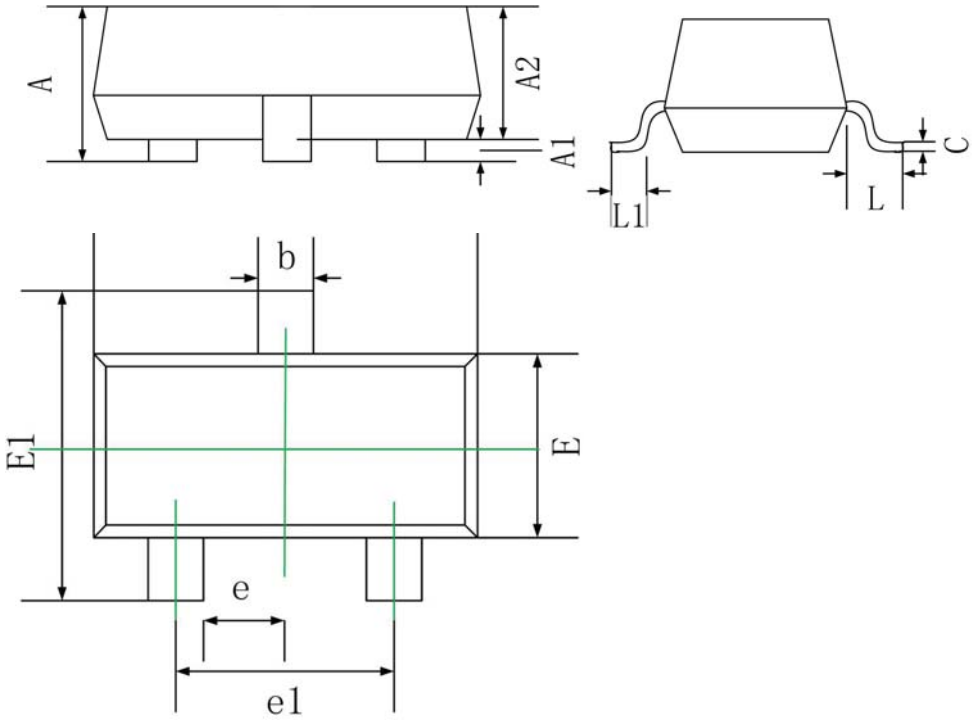








SOT-323 PACKAGE OUTLINE DRAWING



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.90	1.15
A1	0.00	0.10
A2	0.90	1.00
b	0.30	0.50
c	0.10	0.15
D	2.00	2.20
E	1.15	1.35
E1	2.15	2.40
e	0.65 Typ.	
e1	1.20	1.40
L	0.525 Ref.	
L1	0.26	0.46

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