

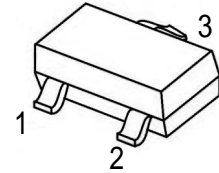
# ATM7002KNSA

## N-Channel Enhancement Mode Field Effect Transistor

Drain-Source Voltage:60V    Continuous Drain Current:300mA

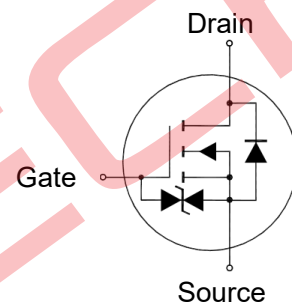
### FEATURES

- ◆ Low on resistance  $R_{DS(ON)}$
- ◆ Low gate threshold voltage
- ◆ Low input capacitance
- ◆ ESD protected up to 2KV



SOT-23

1.Gate 2.Source 3.Drain



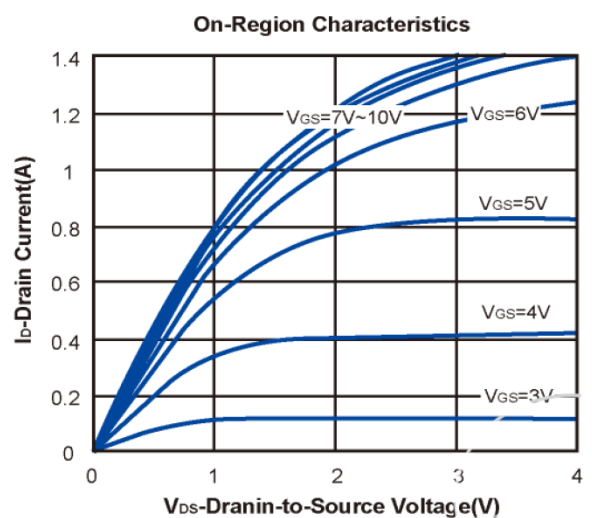
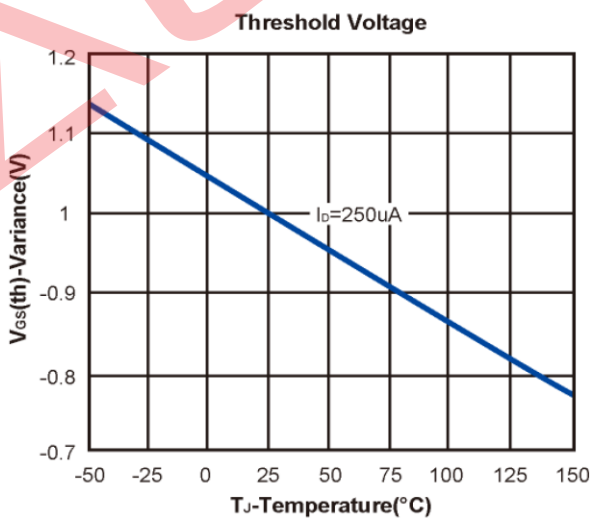
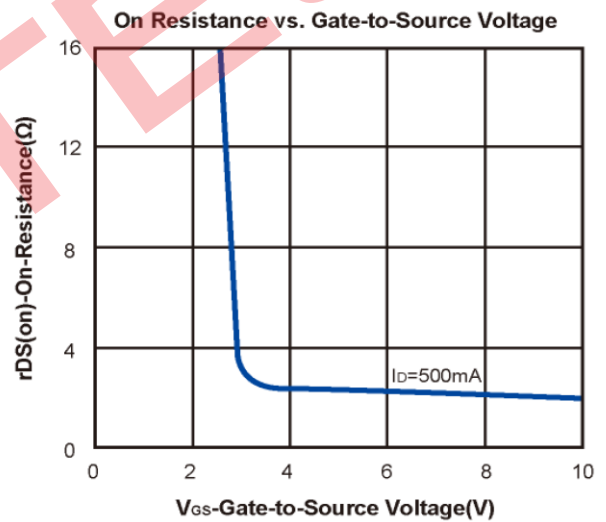
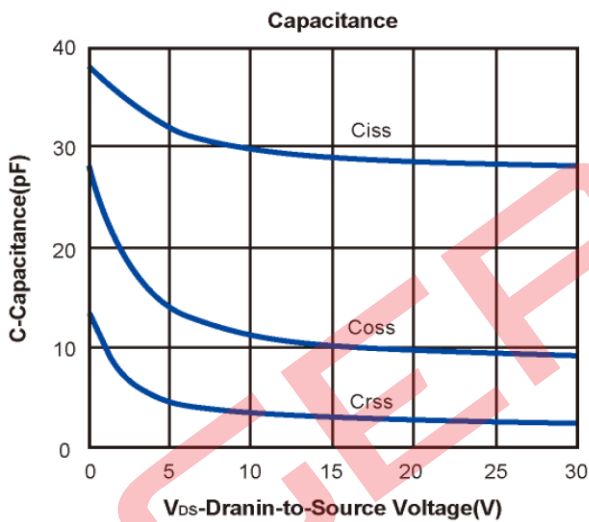
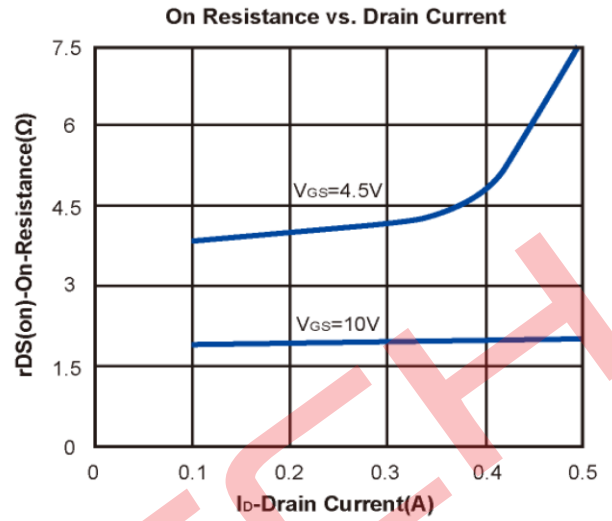
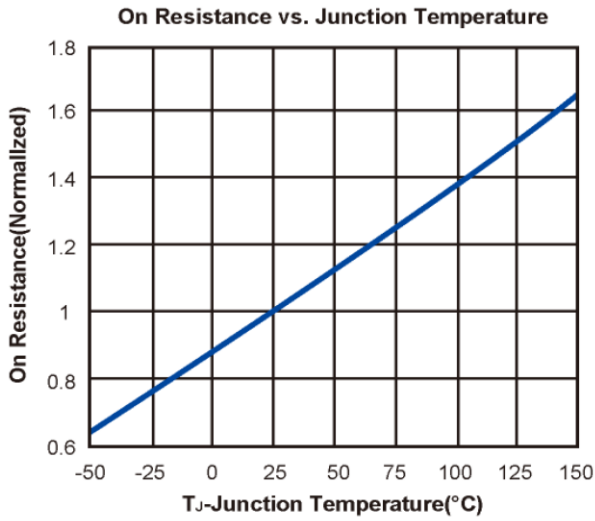
### ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub>= 25 °C)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V <sub>DS</sub>	60	V
Gate-Source Voltage	V <sub>GS</sub>	± 20	V
Drain Current (Continuous)	I <sub>D</sub>	300	mA
Drain Current (Pulse Width ≤ 10 μs)	I <sub>DM</sub>	800	mA
Total Power Dissipation	P <sub>D</sub>	350	mW
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	- 55 to + 150	°C

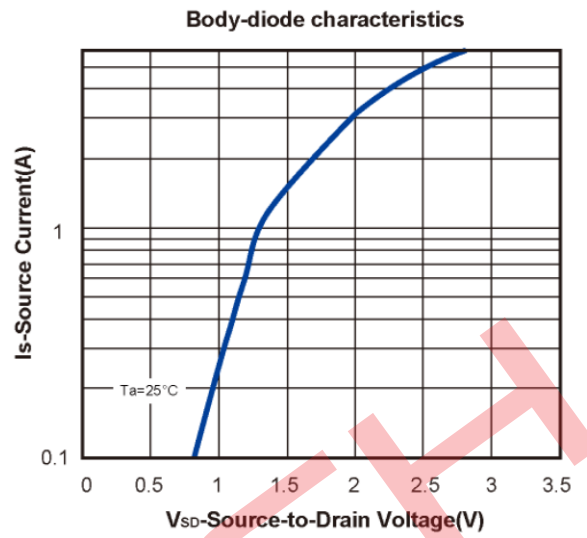
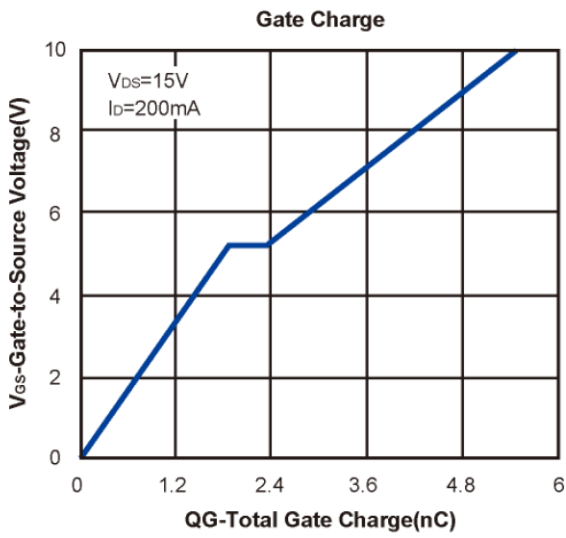
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## Electrical characteristics ( $T_A=25\text{ }^\circ\text{C}$ , unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
<b>Static Characteristics</b>						
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V, I_D=250\mu A$	60			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1		2.5	V
Gate-Body Leakage	$I_{GSS}$	$V_{DS}=0V, V_{GS}=\pm 20V$			$\pm 10$	$\mu A$
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=60V, V_{GS}=0V$			1	$\mu A$
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=500mA$			3	$\Omega$
		$V_{GS}=4.5V, I_D=200mA$			4	
		$V_{GS}=3V, I_D=10mA$			4.5	
Diode Forward Voltage	$V_{SD}$	$I_S=200mA, V_{GS}=0V$		0.82	1.3	V
<b>Dynamic characteristics</b>						
Total Gate Charge	$Q_g$	$V_{DS}=15V, V_{GS}=4.5V, I_D=200mA$		1.5		nC
Gate-Source Charge	$Q_{gs}$			1.9		
Gate-Drain Charge	$Q_{gd}$			0.4		
Input Capacitance	$C_{iss}$	$V_{DS}=25V, V_{GS}=0V, f=1MHz$		28		pF
Output Capacitance	$C_{oss}$			9		
Reverse Transfer Capacitance	$C_{rss}$			2		
<b>Switching Characteristics</b>						
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=30V, R_L=150\Omega$		8.5		ns
Turn-On Rise Time	$t_r$			6		
Turn-Off Delay Time	$t_{d(off)}$	$I_D=200mA, V_{GEN}=10V, R_G=10\Omega$		31.8		
Turn-Off Fall Time	$t_f$			15.5		



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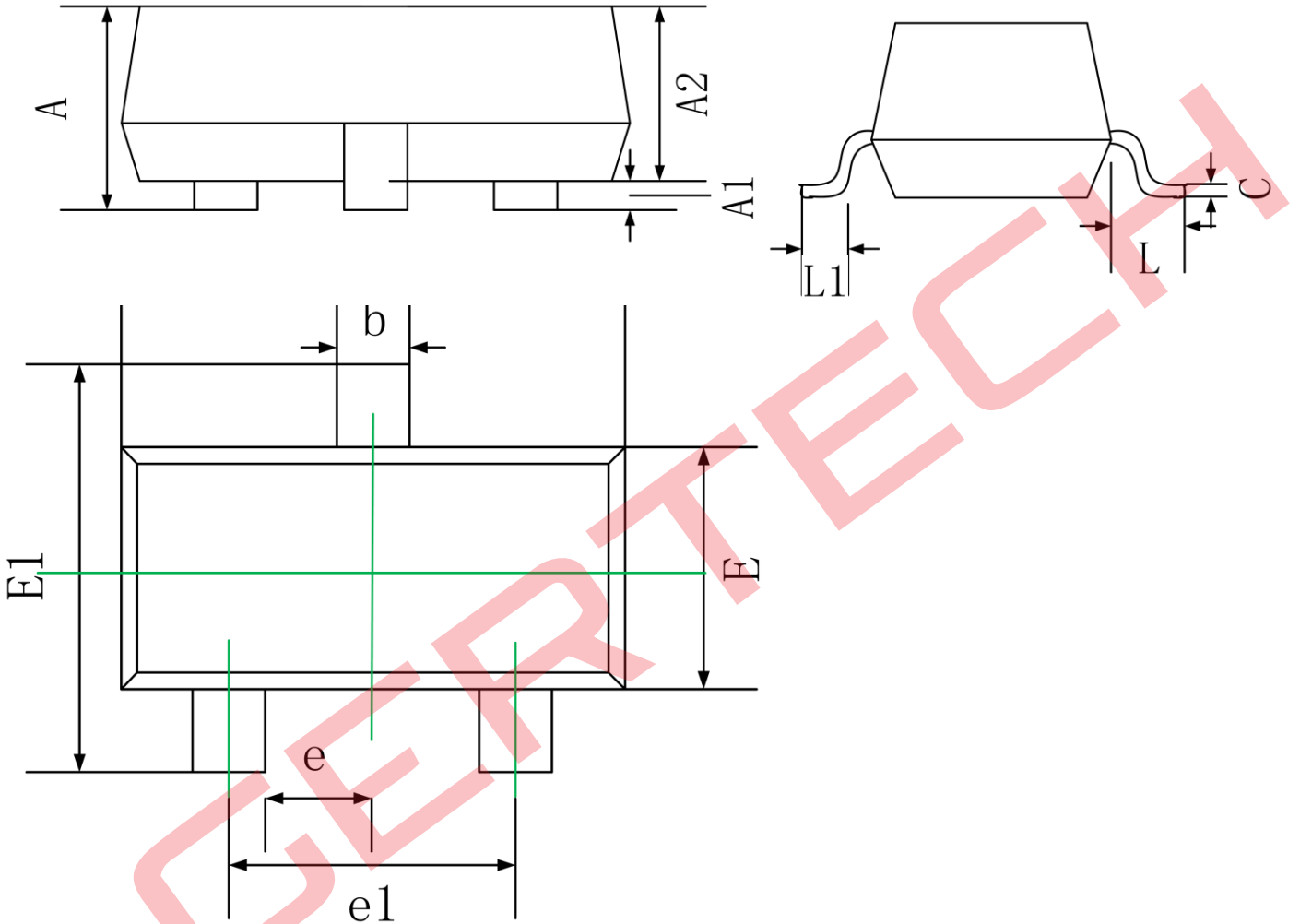
## ORDERING INFORMATION

Device	Package	Shipping
ATM7002KNSA	SOT-23	3000/Reel&Tape(7inch)

# ATM7002KNSA

## PACKAGE OUTLINE

### SOT-23 Package Information



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.90	1.15
A1	0.00	0.10
A2	0.90	1.05
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	1.20	1.40
E1	2.25	2.55
e	0.95 REF.	
e1	1.80	2.00
L	0.55 REF.	
L1	0.30	0.50