

**60V N-Channel MOSFET**

**Description**

The PME60N03U uses advanced Trench technology and designs to provide excellent  $R_{DS(ON)}$  with low gate charge. This device is suitable for use in PWM, load switching and general purpose applications.

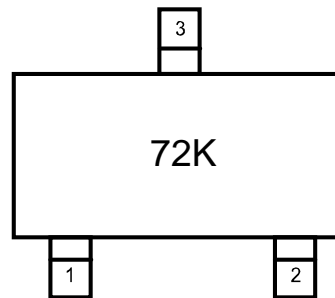
**Features**

- Super high density cell design for extremely low  $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability
- Capable doing Cu wire bonding
- ESD protected Gate HBM 2KV

**Applications**

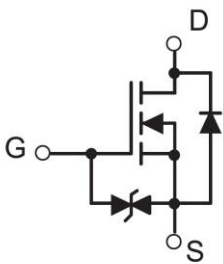
- Power Management in Note book
- Portable Equipment
- Battery Powered System

**Marking Information**

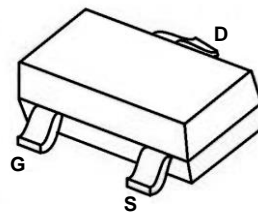


72K = Device Marking Code

**Dimensions and Pin Configuration**



Circuit diagram



SOT-323

**MOSFET Product Summary**

$V_{(BR)DSS}$	$R_{DS(on)}$ MAX	$I_D$
60V	3Ω@10V	340mA
	4Ω@4.5V	
	4.5Ω@3V	

**Absolute Maximum Ratings ( $T_A=25^{\circ}C$  unless otherwise noted)**

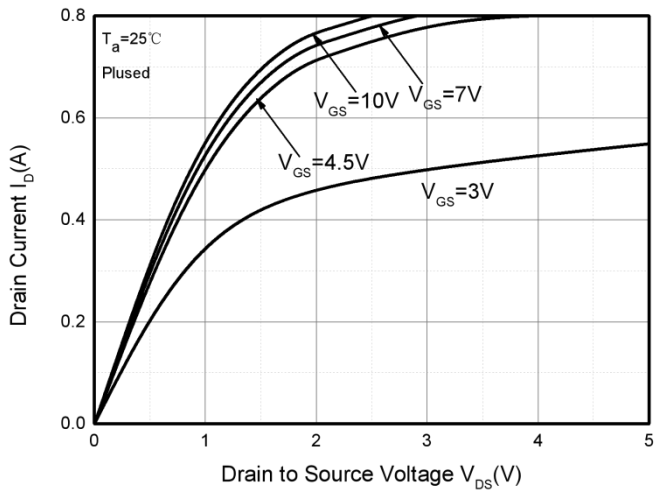
Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	60	V
Gate-Source Voltage	$V_{GS}$	±20	V
Continuous Drain Current	$I_D$	340	mA
Plused Drain Current <sup>1</sup>	$I_{DM}$	800	mA
Power Dissipation	$P_D$	0.2	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	°C/W
Junction Temperature	$T_J$	150	°C
Storage Temperature	$T_{STG}$	-55~ +150	°C

**Electrical Characteristics (  $T_A = 25^\circ\text{C}$  unless otherwise noted )**

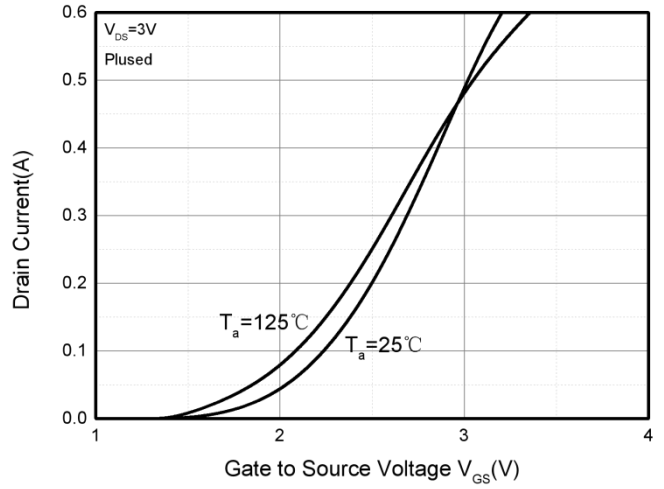
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
<b>Static Characteristics</b>						
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V, I_D=250\mu A$	60			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1	1.5	2.5	V
Gate-Body Leakage	$I_{GSS}$	$V_{DS}=0V, V_{GS}=\pm 20V$			$\pm 10$	$\mu A$
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=60V, V_{GS}=0V$			1	$\mu A$
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=500mA$		1.3	3	$\Omega$
		$V_{GS}=4.5V, I_D=200mA$		1.8	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	$t_{d(on)}$	$V_{DD}=30V, R_L=150\Omega$ $I_D=200mA, V_{GEN}=10V, R_G=10\Omega$		8.5		ns
Turn-On Rise Time	$t_r$			6		
Turn-Off Delay Time	$t_{d(off)}$			31.8		
Turn-Off Fall Time	$t_f$			15.5		

**Typical Characteristics**

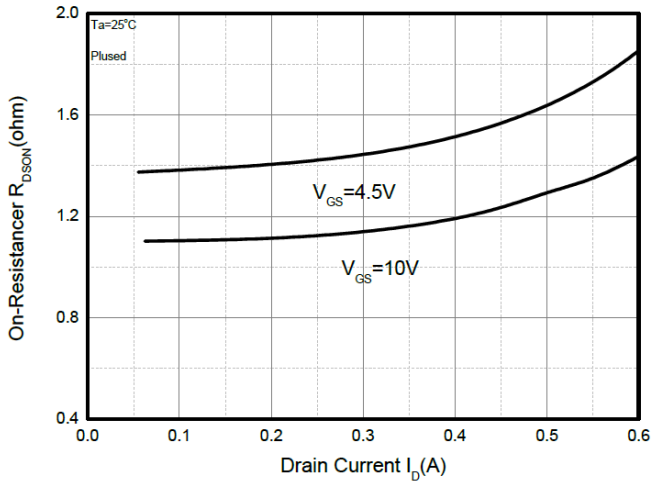
Output Characteristics



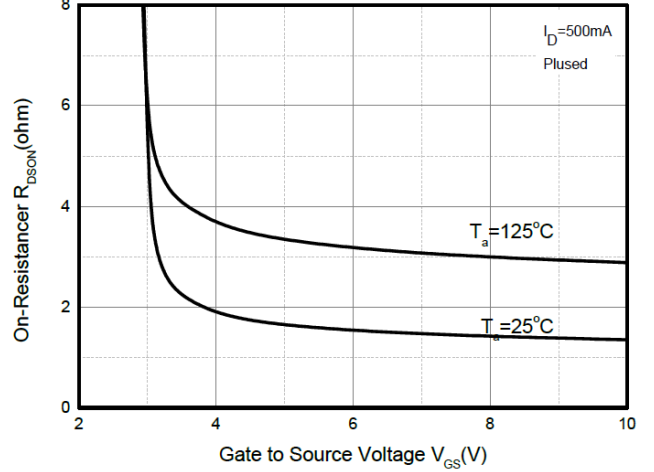
Transfer Characteristics



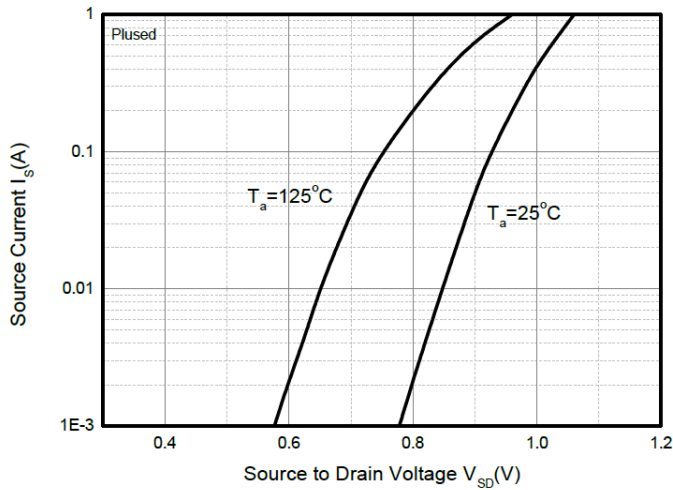
$R_{DS(ON)} - I_D$



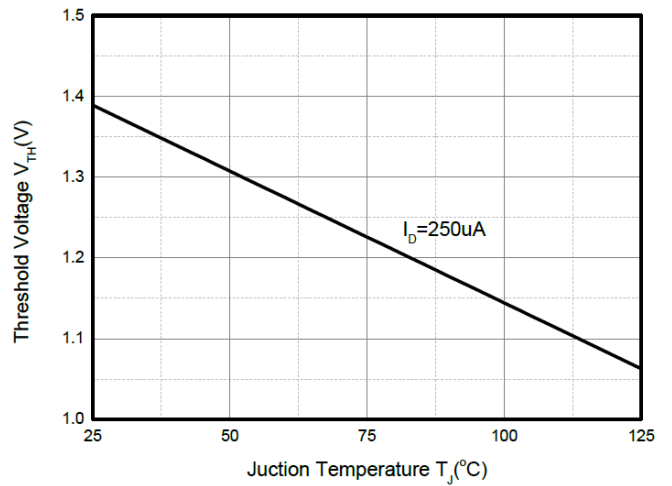
$R_{DS(ON)} - V_{GS}$



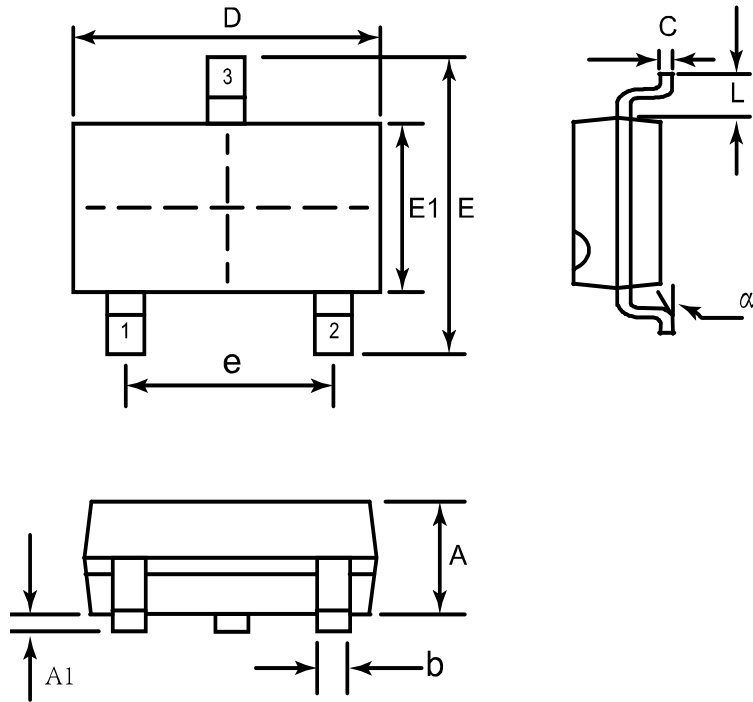
$I_S - V_{SD}$



Threshold Voltage



**SOT-323 Package Outline Drawing**



Symbol	Dimensions In Millimeters	
	Min.	Max.
A1	0.00	0.10
A	0.90	1.00
b	0.30	0.50
c	0.10	0.15
D	2.00	2.20
E1	1.15	1.35
E	2.15	2.40
e	1.20	1.40
L	0.525 REF.	
$\theta$	0°	8°