

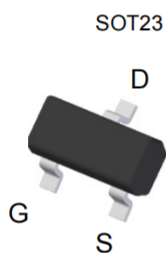
**Product Summary**

$BV_{DSS}$	20V
$R_{DS(ON)}$	250mΩ
$I_D$	1.2A

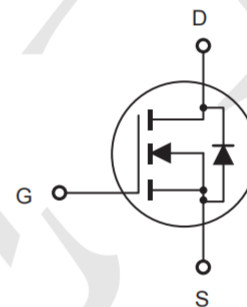
**Application**

- \* Load/Power switch
- \* Interfacing, logic switching
- \* Battery management for ultra portable electronics

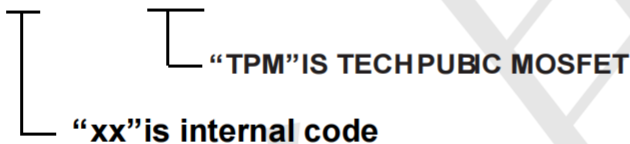
**Package and Pin Configuration**



**Circuit diagram**



**Marking: A4xx Or AETPM**



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

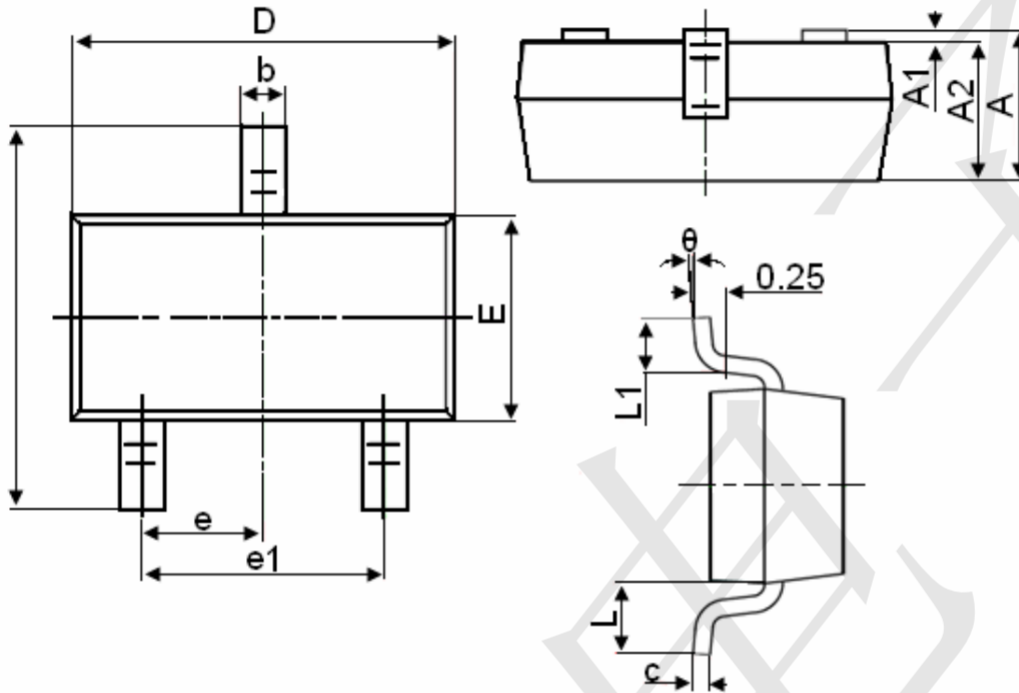
Parameter	Symbol	Max.	Unit
Drain-Source Voltage	$V_{DS}$	20	V
Gate-Source Voltage	$V_{GS}$	±12	V
Drain Current-Continuous	$I_D$	1.2	A
Drain Current-Pulsed <sup>1</sup>	$I_{DM}$	5	A
Maximum Power Dissipation	$P_D$	540	mW
Thermal Resistance, Junction-to-Ambient <sup>2</sup>	$R_{\theta JA}$	150	°C/W
Storage Temperature Range	$T_{STG}$	-55 To +150	°C
Operating Junction Temperature Range	$T_J$	-55 To +150	°C

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
<b>Off Characteristics</b>						
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V, I_D=250\mu A$	20		-	V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=20V, V_{GS}=0V$	-	-	1	$\mu A$
Gate-Body Leakage Current	$I_{GSS}$	$V_{GS}=\pm 12V, V_{DS}=0V$	-	-	$\pm 100$	nA
<b>On Characteristics<sup>3</sup></b>						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.7			V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=1.2A$	-		250	m $\Omega$
		$V_{GS}=2.5V, I_D=1A$	-		360	
Forward Transconductance	$g_{FS}$	$V_{DS}=5V, I_D=2.9A$	-	8	-	S
<b>Dynamic Characteristics<sup>4</sup></b>						
Input Capacitance	$C_{iss}$	$V_{DS}=10V, V_{GS}=0V, F=1MHz$	-	-	300	pF
Output Capacitance	$C_{oss}$		-	-	90	
Reverse Transfer Capacitance	$C_{rss}$		-	-	80	
<b>Switching Characteristics<sup>4</sup></b>						
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=10V, V_{GS}=4.5V, I_D=2.9A, R_{GEN}=6\Omega$	-	-	15	nS
Turn-On Rise Time	$t_r$		-	-	85	
Turn-Off Delay Time	$t_{d(off)}$		-	-	45	
Turn-Off Fall Time	$t_f$		-	-	20	
Total Gate Charge	$Q_g$	$V_{DS}=10V, I_D=2.9A, V_{GS}=4.5V$	-	4	10	nC
Gate-Source Charge	$Q_{gs}$		-	0.65	-	
Gate-Drain Charge	$Q_{gd}$		-	1.2	-	
<b>Drain-Source Diode Characteristics</b>						
Diode Forward Voltage <sup>3</sup>	$V_{SD}$	$V_{GS}=0V, I_S=2.9A$	-	0.75	1.2	V
Continuous Source Current <sup>2</sup>	$I_S$		-	-	1.2	A



**Package Outline Dimensions (SOT-23)**



Symbol	Dimensions in Millimeters	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

Notes

1. All dimensions are in millimeters.
2. Tolerance  $\pm 0.10\text{mm}$  (4 mil) unless otherwise specified
3. Package body sizes exclude mold flash and gate burrs. Mold flash at the non-lead sides should be less than 5 mils.