

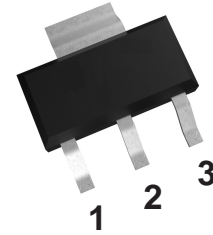
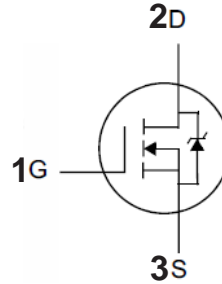
## 60V N-Channel MOSFET

### Feature

- Logic Level Threshold Voltage
- $R_{DS(ON)} = 86m\Omega(\text{typ.}) @ V_{GS} = 10V$
- Reliable and Rugged

### Applications

- General application
- Boost Converters
- Power Management in DC/AC Inverter Systems.



**SOT-223**

### 1. Absolute Maximum Ratings ( $T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

Symbol	Parameter	Rating	Unit
$V_{DSS}$	Drain-Source Voltage	60	V
$V_{GSS}$	Gate-Source Voltage	$\pm 20$	
$I_D$	Continue Drain Current ( $T_A = 25^\circ\text{C}$ )	2.2	A
$I_{DM}^a$	Pulsed Drain Current ( $T_A = 25^\circ\text{C}$ )	5.5	
$I_S$	Diode Continuous Forward Current ( $T_A = 25^\circ\text{C}$ )	0.6	A
$T_J$	Maximum Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature Range	-55 to 150	

### 2. Static Electrical Characteristics ( $T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

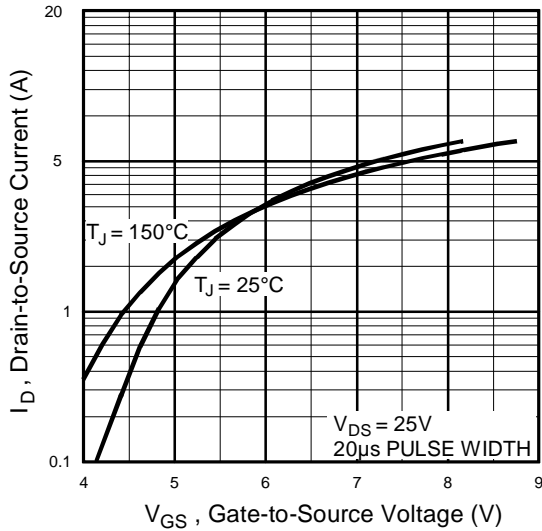
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
<b>Static Characteristics</b>						
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS} = 0V, I_{DS} = 250\mu\text{A}$	60	-	-	V
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS} = 48V, V_{GS} = 0V$ $T_J = 85^\circ\text{C}$	-	-	1	$\mu\text{A}$
			-	-	30	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}, I_{DS} = 250\mu\text{A}$	1.0	1.8	2.5	V
$I_{GSS}$	Gate Leakage Current	$V_{GS} = \pm 20V, V_{DS} = 0V$	-	-	$\pm 100$	nA
$R_{DS(ON)}$	Drain-Source On-state Resistance	$V_{GS} = 10V, I_{DS} = 0.5A$	-	86	-	$m\Omega$
		$V_{GS} = 4.5V, I_{DS} = 0.5A$	-	100	-	$m\Omega$
$V_{SD}$	Diode Forward Voltage	$I_{SD} = 0.5A, V_{GS} = 0V$	-	-	1.1	V

\*Note:

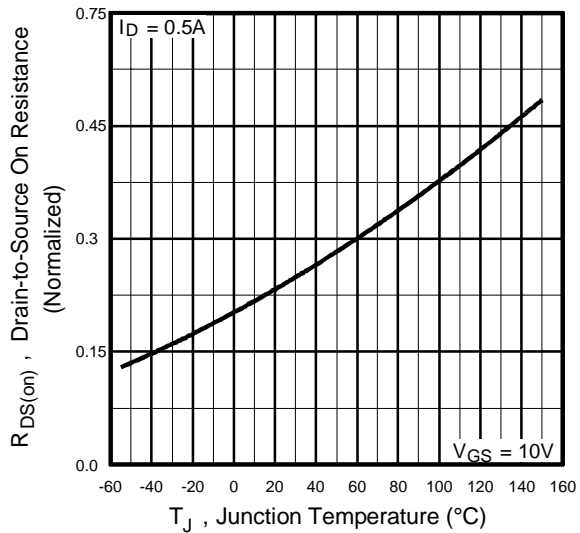
a: Pulse width limited by maximum junction temperature.

b:  $R_{\theta JA}$  is the sum of the thermal impedance from junction to ambient and depend on package type.  
Surface Mounted on  $1\text{in}^2$  pad area.

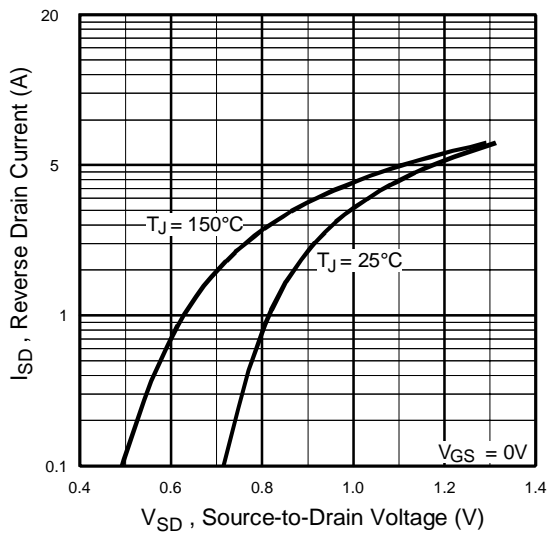
## Typical Characteristics



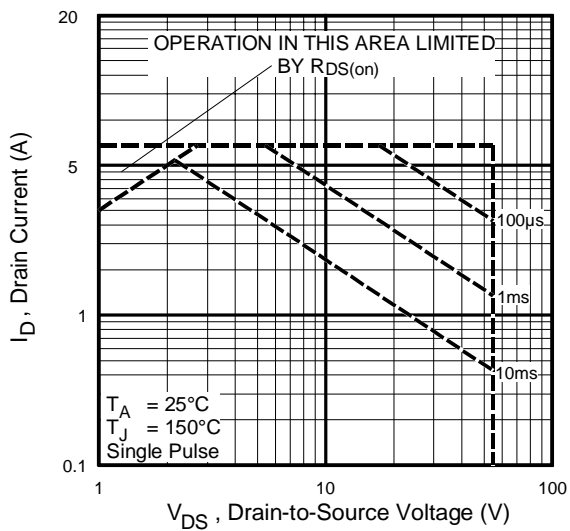
**Fig 1.** Typical Transfer Characteristics



**Fig 2.** Normalized On-Resistance Vs. Temperature

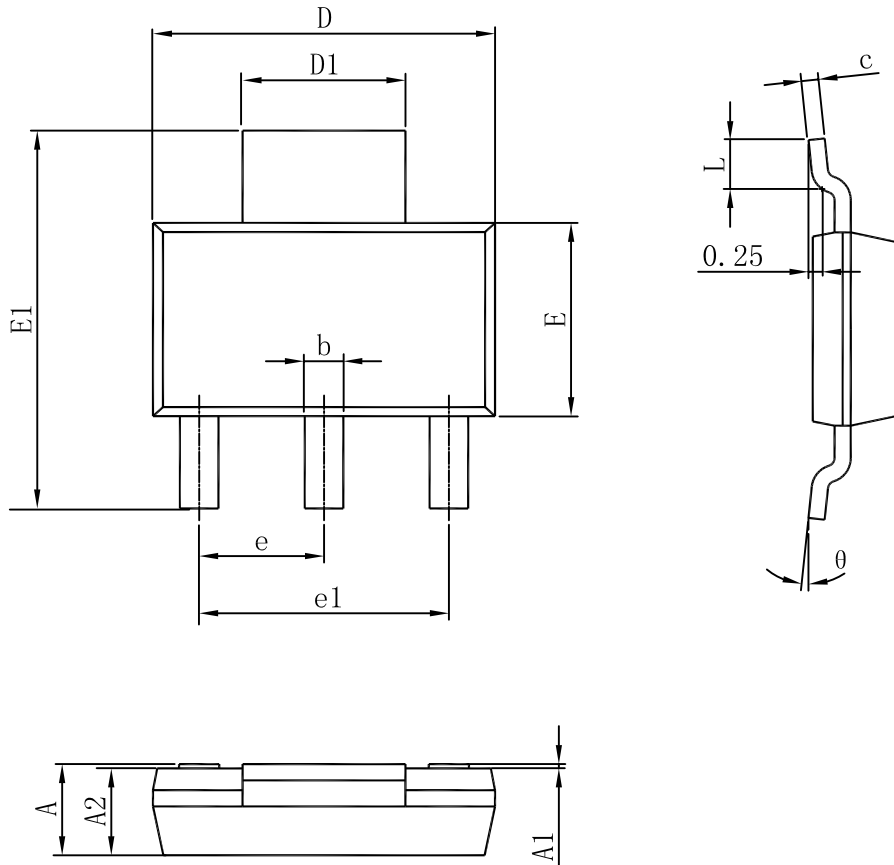


**Fig 3.** Typical Source-Drain Diode Forward Voltage



**Fig 4.** Maximum Safe Operating Area

## SOT-223 PACKAGE OUTLINE DIMENSIONS



1. 塑脂体无缺损、缩孔、气泡、裂纹等缺陷；
2. 树脂体上下部XY方向偏差、树脂体中心与引线框中心错位  $\pm 0.035$ ；
3. 粗糙度Ra为0.4--0.6。

Symbol	Dimensions In Millimeters		
	MIN	NOM	MAX
A	/	/	1.80
A1	0.02	/	0.10
A2	1.50	1.60	1.70
b	0.66	0.71	0.84
c	0.23	0.30	0.35
D	6.30	6.50	6.70
D1	2.90	3.00	3.10
E	3.30	3.50	3.70
E1	6.70	7.00	7.30
e	2.30 BASIC		
e1	4.60 BASIC		
L	0.75	/	/
$\theta$	0°	/	10°