

## Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	$I_D$
60V	$2\Omega@10V$	100mA
	$2.5\Omega@4.5V$	

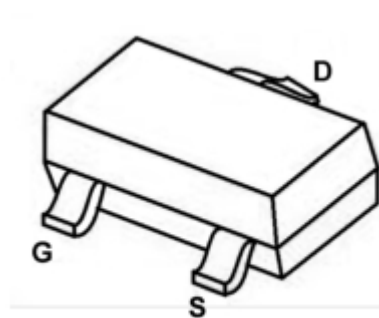
## Feature

- Low on-resistance
- Fast switching speed
- Low voltage drive makes this device ideal for Portable equipment
- Easily designed drive circuits
- Easy to parallel
- ESD Protected

## Application

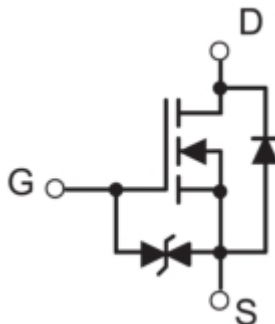
- Interfacing , Switching

## Package

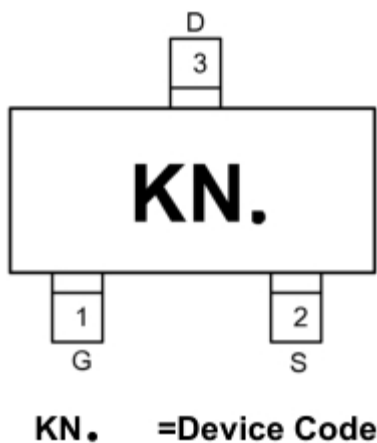


**SOT-523**

## Circuit diagram



## Marking



## Absolute maximum ratings

( $T_a=25^{\circ}\text{C}$  unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	60	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Continuous Drain Current	$I_D$	100	mA
Power Dissipation	$P_D$	0.15	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	833	$^{\circ}\text{C}/\text{W}$
Junction Temperature	$T_J$	150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55~ +150	$^{\circ}\text{C}$

## Electrical characteristics

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

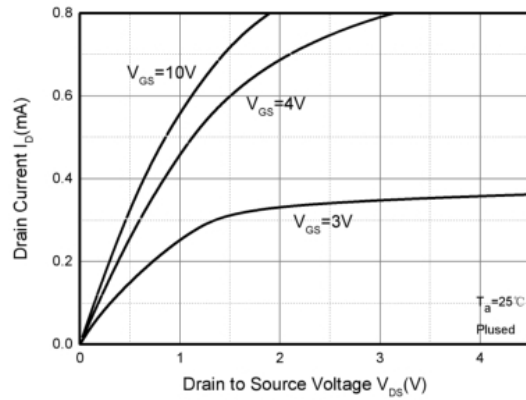
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	60			V
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = 48V, V_{GS} = 0V$			1	$\mu A$
Gate-body leakage current	$I_{GSS}$	$V_{GS} = \pm 20V, V_{DS} = 0V$			$\pm 5$	$\mu A$
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.7	1	1.45	V
Drain-source on-resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 200mA$		2	5	$\Omega$
		$V_{GS} = 4.5V, I_D = 100mA$		2.5	8	
Dynamic characteristics						
Input Capacitance1)	$C_{iss}$	$V_{DS}=25V, V_{GS}=0V, f=1MHz$ Z		27		pF
Output Capacitance1)	$C_{oss}$			13		
Reverse Transfer Capacitance1)	$C_{rss}$			6		
Switching Characteristics						
Turn-on delay time	$t_{d(on)}$	$V_{DD}=30V, I_D=0.29A,$ $V_{GEN}=10V, R_G=6\Omega$			5	ns
Rise time	tr				18	
Turn-off delay time	$t_{d(off)}$				36	
Fall tim	tf				14	
Source-Drain Diode Characteristics						
Diode Forward voltage	$V_{SD}$	$V_{GS} = 0V, I_S = 500mA$	0.5		1.4	V

### Notes:

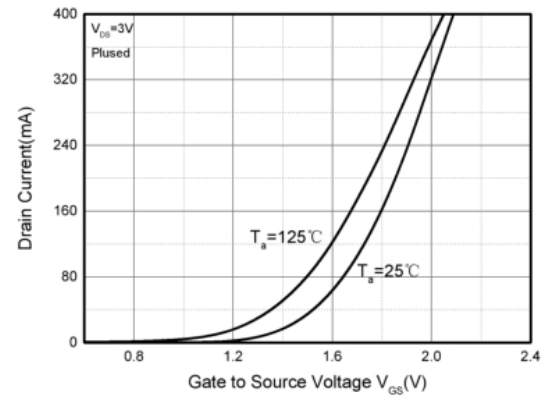
1.Pulse Test: Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2\%$ .

2.These parameters have no way to verify.

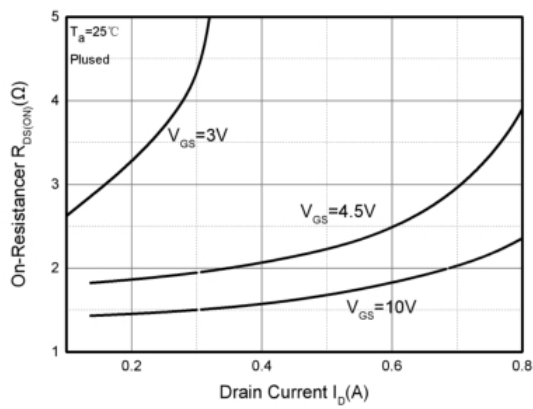
## Typical Characteristics



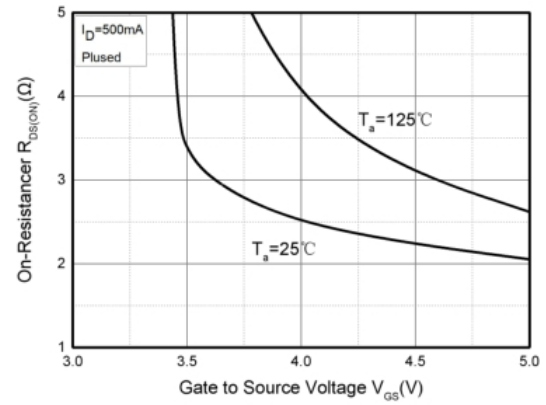
Output Characteristics



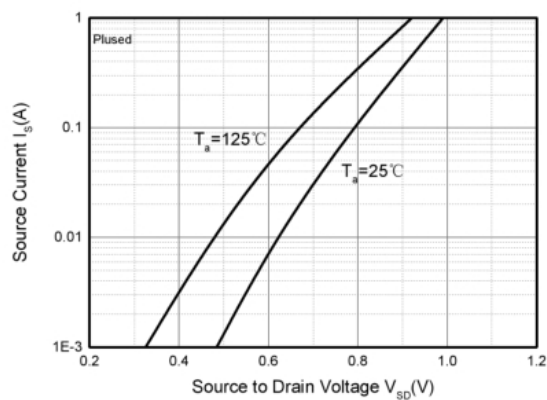
Transfer Characteristics



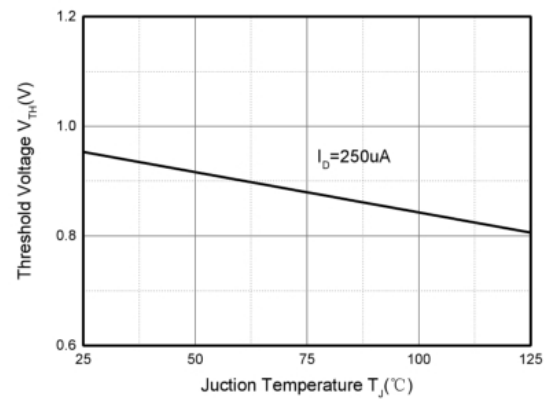
RDS(ON)—ID



RDS(ON)—VGS

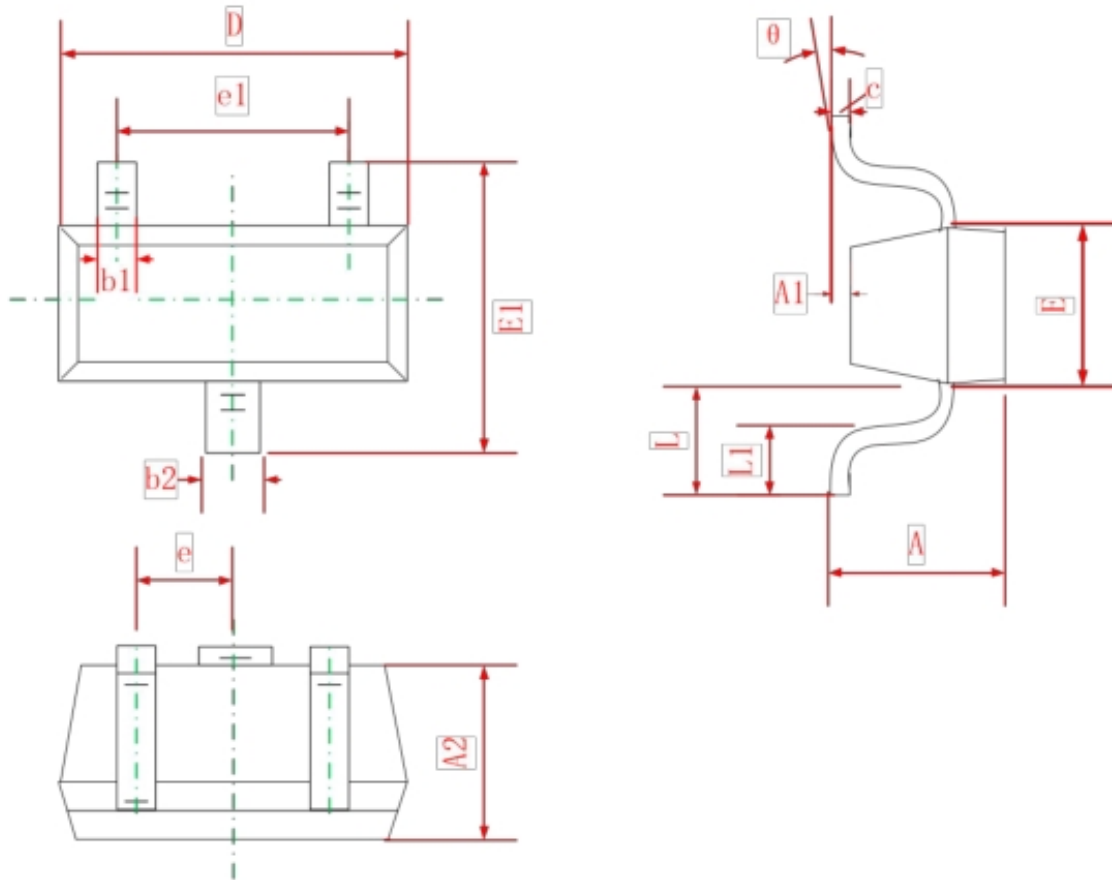


IS—VSD



Threshold Voltage

## SOT-523 Package Information



Symbol	Dimensions In Millimeters	
	Min	Max
A	0.700	0.900
A1	0.000	0.100
A2	0.700	0.800
b1	0.150	0.250
b2	0.250	0.350
C	0.100	0.200
D	1.500	1.700
E	0.700	0.900
E1	1.450	1.750
e	0.500 TYP	
e1	0.900	1.100
L	0.400 REF	
L1	0.260	0.460
$\theta$	0°	8°