

**Product Summary**

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

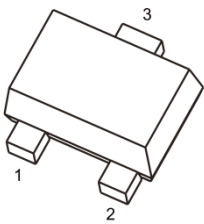
**Feature**

- High density cell design for Low RDS(on)
- Voltage controlled small signal switch
- Rugged and reliable
- Parallel use is easy
- ESD protected

**Application**

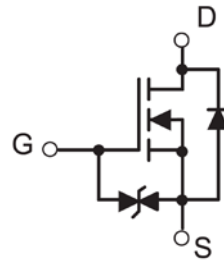
- Load Switch for Portable Devices
- Battery Switch

**Package**

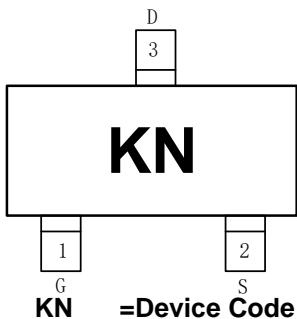


**SOT-723**

**Circuit diagram**



**Marking**



**Absolute maximum ratings (Ta=25°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	$^{\circ}C/W$
Junction Temperature	$T_J$	150	$^{\circ}C$
Storage Temperature	$T_{STG}$	-55~ +150	$^{\circ}C$

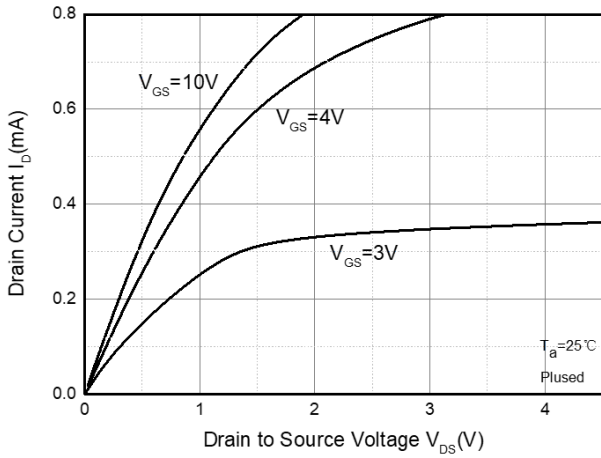
**Electrical characteristics (T<sub>A</sub>=25 °C, unless otherwise noted)**

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
<b>Static Characteristics</b>						
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 <sup>1)</sup>	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.7	1	1.45	V
Drain-source on-resistance <sup>1)</sup>	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 500mA$		2	5	$\Omega$
		$V_{GS} = 4.5V, I_D = 200mA$		2.5	8	
<b>Dynamic characteristics<sup>2)</sup></b>						
Input Capacitance	$C_{iss}$	$V_{DS} = 25V, V_{GS} = 0V, f = 1MHz$		27		pF
Output Capacitance	$C_{oss}$			13		
Reverse Transfer Capacitance	$C_{rss}$			6		
<b>Switching Characteristics<sup>1)2)</sup></b>						
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 30V, I_D = 0.29A, V_{GS} = 10V, R_G = 6\Omega$			5	nS
Rise time	$t_r$				18	
Turn-off delay time	$t_{d(off)}$				36	
Fall time	$t_f$				14	
<b>Source-Drain Diode characteristics</b>						
Diode Forward voltage	$V_{SD}$	$V_{GS} = 0V, I_S = 500mA$	0.5		1.4	V

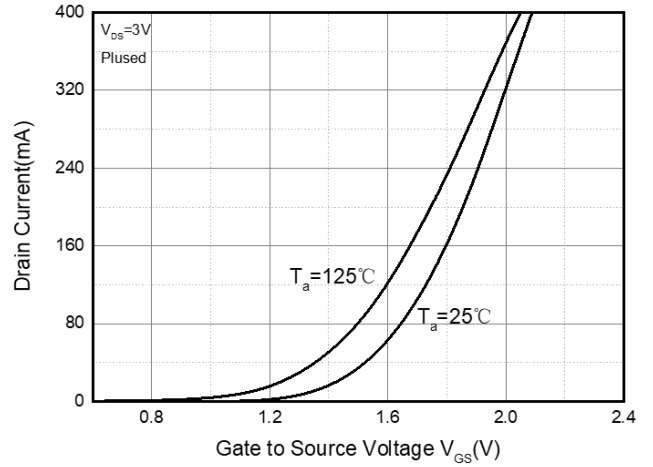
**Notes:**

- 1) Pulse Test: Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2\%$ .
- 2) These parameters have no way to verify.

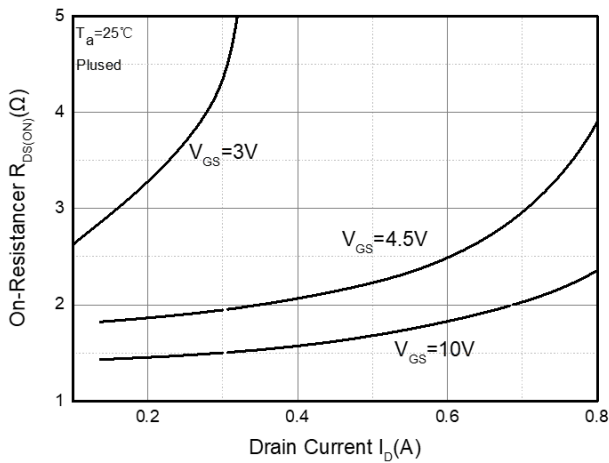
**Typical Characteristics**



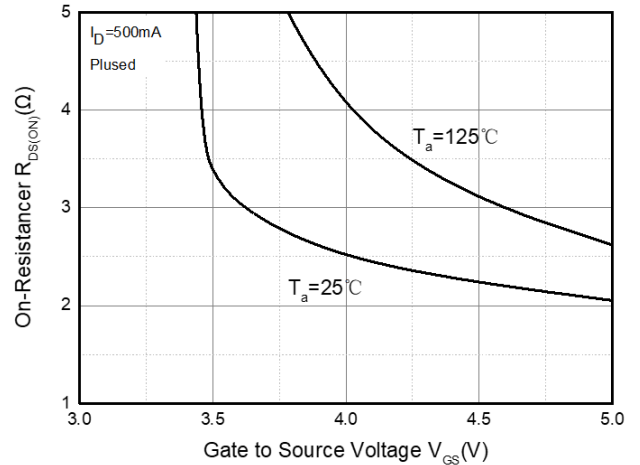
**Output Characteristics**



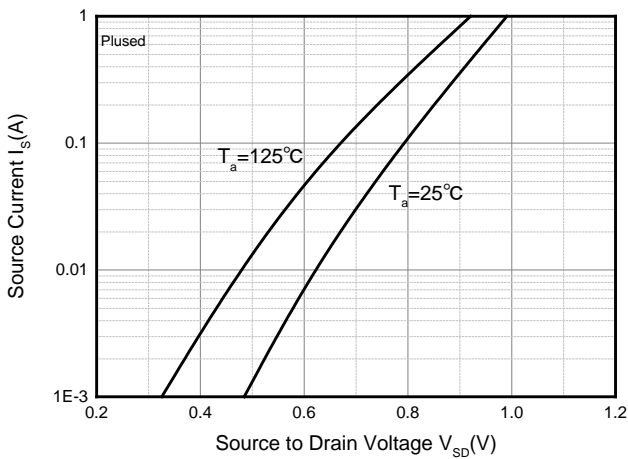
**Transfer Characteristics**



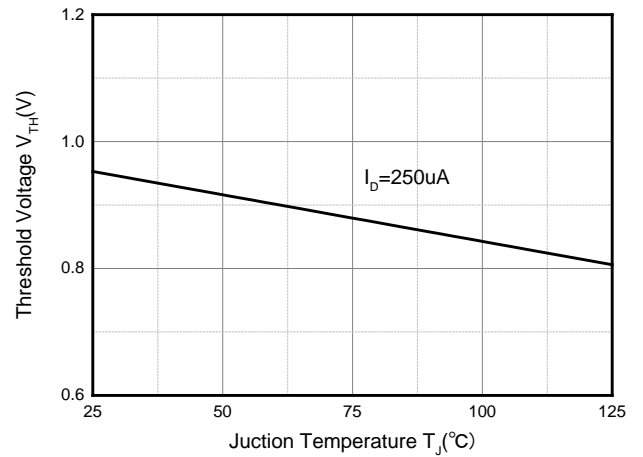
**RDS(ON)—I<sub>D</sub>**



**RDS(ON)—V<sub>GS</sub>**

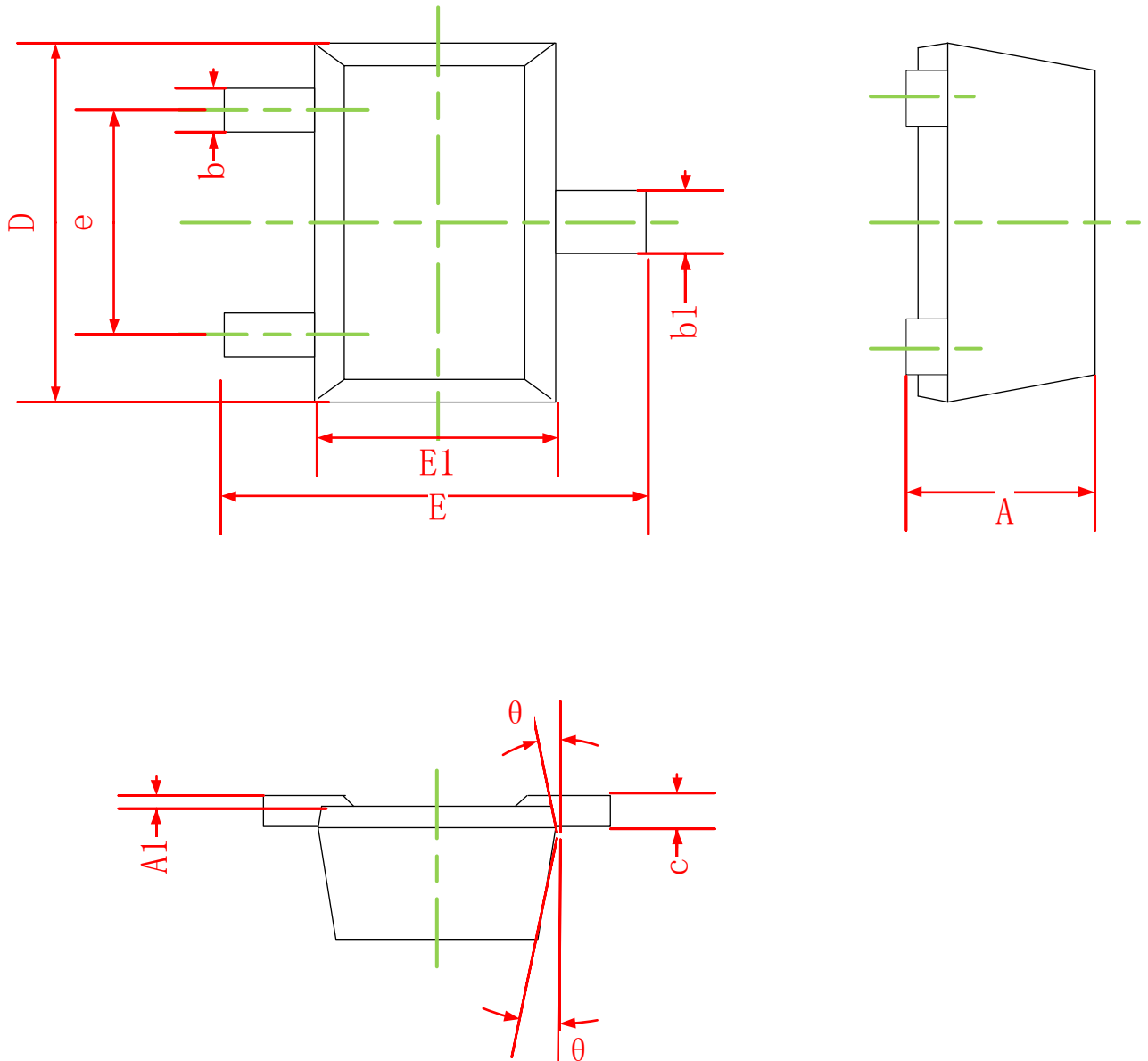


**I<sub>S</sub>—V<sub>SD</sub>**



**Threshold Voltage**

SOT-723 Package Information



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.430	0.500
A1	0.000	0.050
b	0.170	0.270
b1	0.270	0.370
c	0.080	0.150
D	1.150	1.250
E	1.150	1.250
E1	0.750	0.850
e	0.800TYP.	
$\theta$	7° REF.	