



#### Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	$I_D$
60V	1.8Ω@10V	0.34A
	2.1Ω@4.5V	

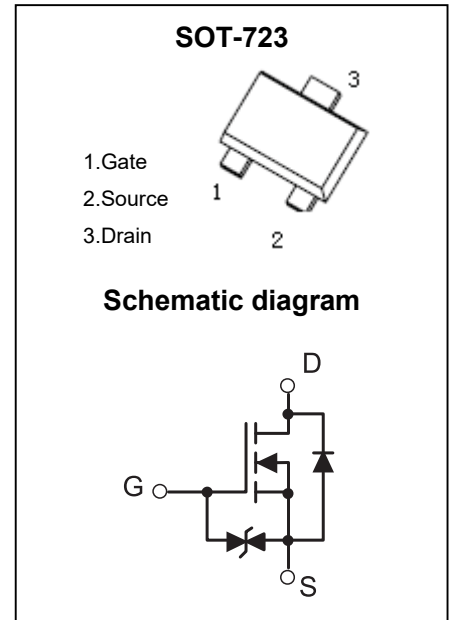
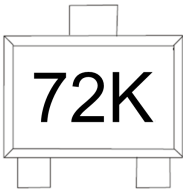
#### Feature

- Trench Technology Power MOSFET
- Low  $R_{DS(ON)}$
- Low Gate Charge
- ESD Protected

#### Application

- Load Switch
- DC/DC Converter

#### 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	$V_{GS}$	±20	V
Continuous Drain Current <sup>1,5</sup>	$I_D$	0.34	A
Pulsed Drain Current <sup>2</sup>	$I_{DM}$	1.3	A
Power Dissipation <sup>4,5</sup>	$P_D$	0.2	W
Thermal Resistance from Junction to Ambient <sup>5</sup>	$R_{\theta JA}$	625	$^\circ\text{C/W}$
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-55~ +150	$^\circ\text{C}$

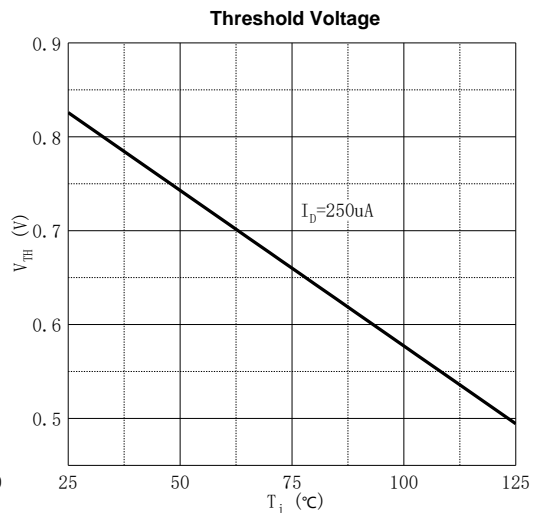
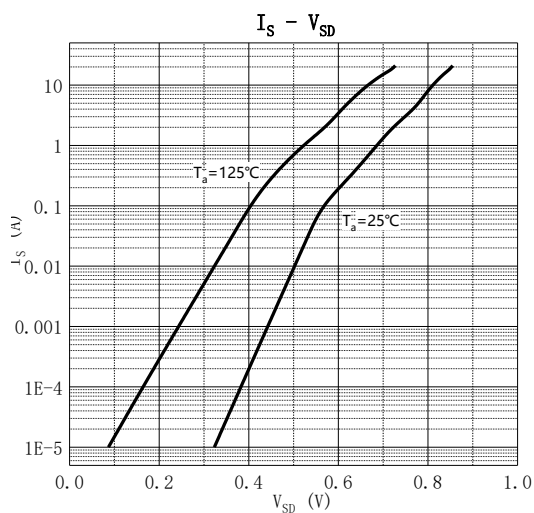
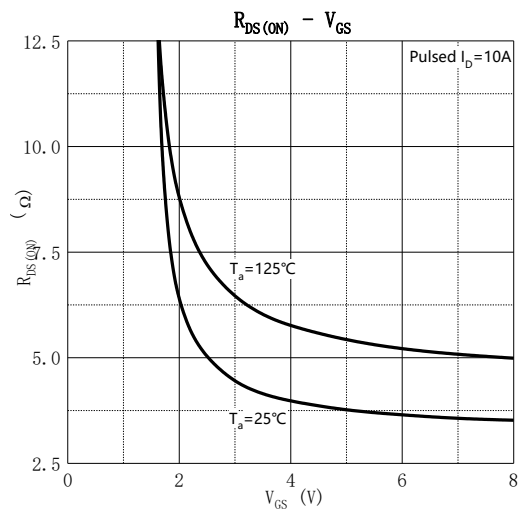
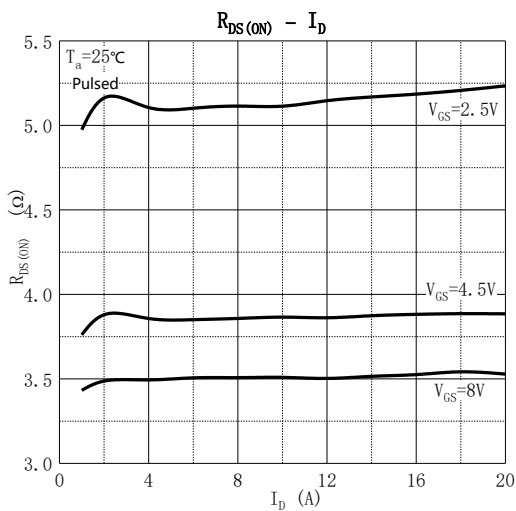
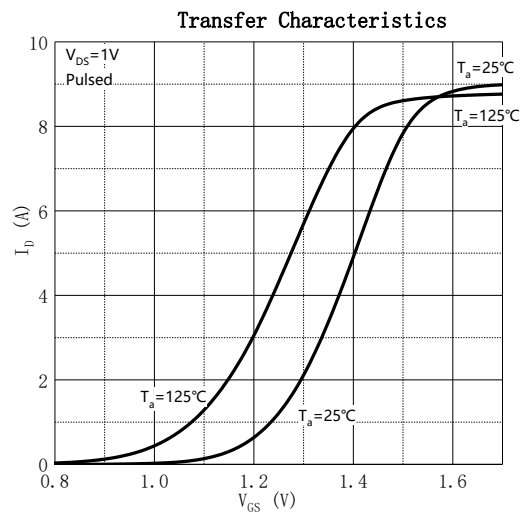
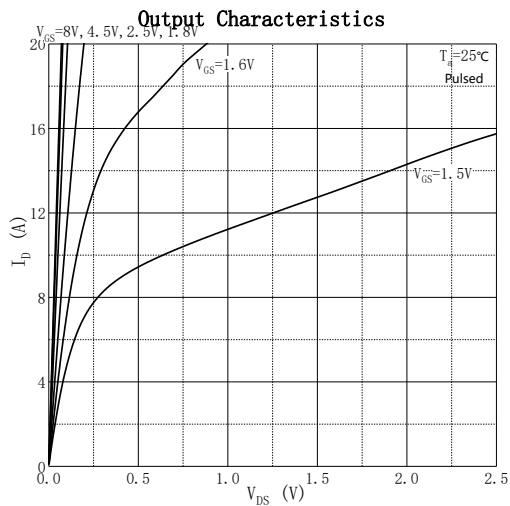
## MOSFET ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
<b>Off Characteristics</b>						
Drain - Source Breakdown Voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = 250μA	60			V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = 60V, V <sub>GS</sub> = 0V			1	μA
Gate - Body Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> = ±20V, V <sub>DS</sub> = 0V			±5	μA
<b>On Characteristics<sup>3</sup></b>						
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250μA	1	1.5	2.5	V
Drain-source On-resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> = 10V, I <sub>D</sub> = 0.34A		1.8	2.5	Ω
		V <sub>GS</sub> = 4.5V, I <sub>D</sub> = 0.2A		2.1	3.0	
<b>Dynamic Characteristics</b>						
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = 30V, V <sub>GS</sub> = 0V, f = 1MHz		16.6		pF
Output Capacitance	C <sub>oss</sub>			4.7		
Reverse Transfer Capacitance	C <sub>rss</sub>			2.2		
Gate Resistance	R <sub>g</sub>	V <sub>DS</sub> = 0V, V <sub>GS</sub> = 0V, f = 1MHz		45		Ω
<b>Switching Characteristics</b>						
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> = 30V, V <sub>GS</sub> = 10V, I <sub>D</sub> = 0.3A		1.3		nC
Gate-source Charge	Q <sub>gs</sub>			0.16		
Gate-drain Charge	Q <sub>gd</sub>			0.47		
Turn-on Delay Time	t <sub>d(on)</sub>	V <sub>DD</sub> = 30V, V <sub>GS</sub> = 10V, R <sub>L</sub> = 100Ω, R <sub>G</sub> = 3Ω		3.8		ns
Turn-on Rise Time	t <sub>r</sub>			2.9		
Turn-off Delay Time	t <sub>d(off)</sub>			14		
Turn-off Fall Time	t <sub>f</sub>			8		
<b>Source - Drain Diode Characteristics</b>						
Diode Forward Voltage <sup>3</sup>	V <sub>SD</sub>	V <sub>GS</sub> = 0V, I <sub>S</sub> = 0.2A			1.2	V

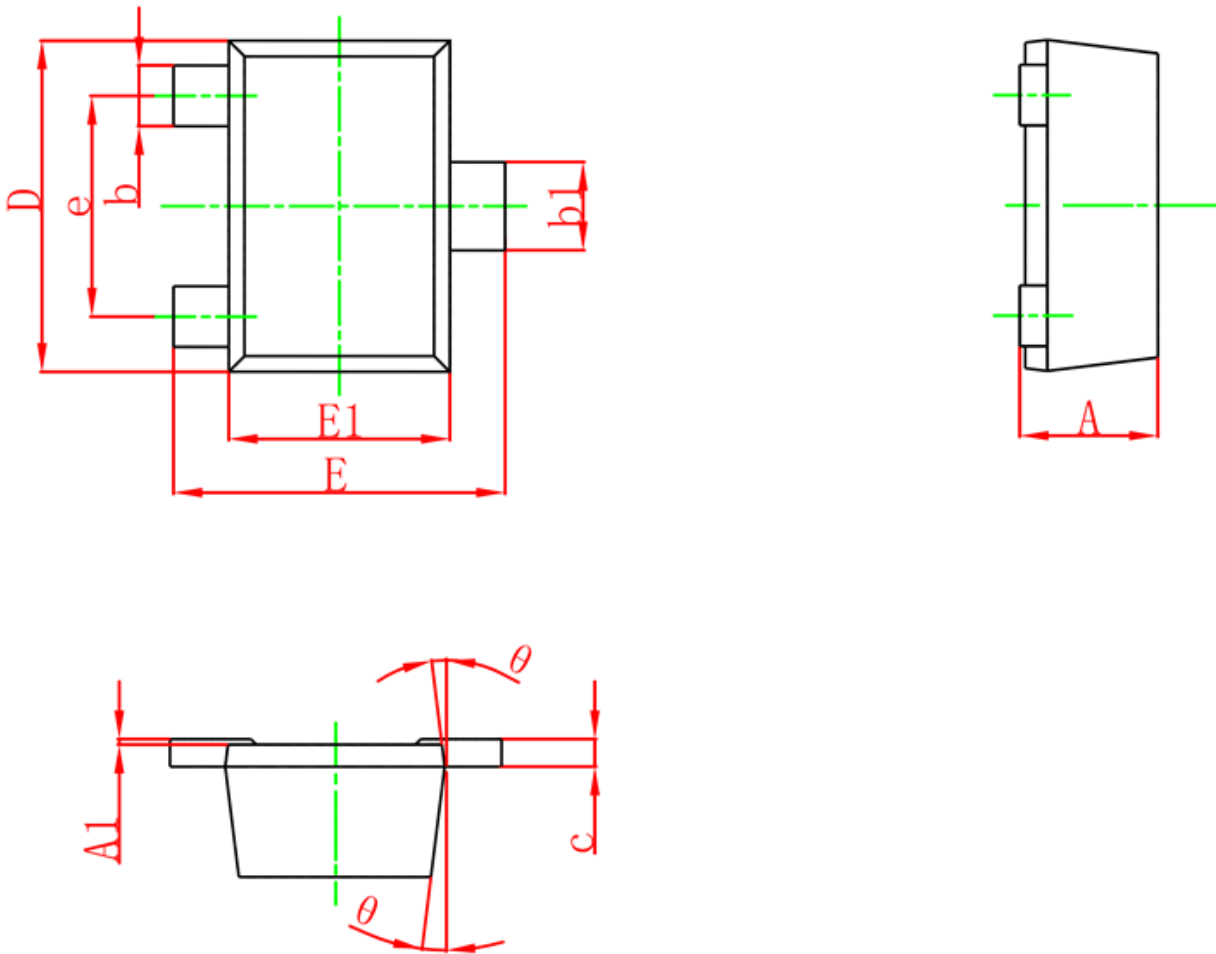
Notes :

- 1.The maximum current rating is limited by package.
- 2.Pulse Test : Pulse Width ≤ 10μs, duty cycle ≤ 1%.
- 3.Pulse Test : Pulse Width ≤ 300μs, duty cycle ≤ 2%.
- 4.The power dissipation P<sub>D</sub> is limited by T<sub>J(MAX)</sub> = 150°C.
- 5.Device mounted on 1in<sup>2</sup> FR-4 board with 2oz. Copper, in a still air environment with T<sub>A</sub> =25°C.

## Typical Characteristics



## SOT-723 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
<b>A</b>	0.400	0.500	0.016	0.020
<b>A1</b>	0.000	0.050	0.000	0.002
<b>b</b>	0.150	0.270	0.006	0.011
<b>b1</b>	0.200	0.370	0.008	0.015
<b>c</b>	0.060	0.160	0.002	0.006
<b>D</b>	1.100	1.300	0.043	0.051
<b>E</b>	1.100	1.300	0.043	0.051
<b>E1</b>	0.700	0.900	0.028	0.035
<b>e</b>	0.8TYP		0.031TYP	
<b>θ</b>	8°REF		8°REF	