



Product Summary

V _{(BR)DSS}	R _{DS(on)TYP}	I _D
20V	150mΩ@4.5V	0.75A
	200mΩ@2.5V	
	270mΩ@1.8V	

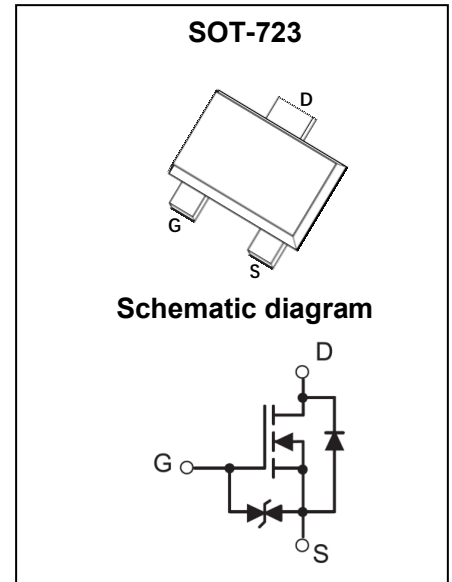
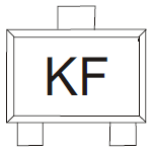
Feature

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

Application

- Load Switching
- Low Current Inverters
- Low Current DC/DC Converters

MARKING:



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain - Source Voltage	V _{DS}	20	V
Gate - Source Voltage	V _{GS}	±12	V
Continuous Drain Current ^{1,5}	I _D	0.75	A
Pulsed Drain Current ²	I _{DM}	2.3	A
Power Dissipation ^{4,5}	P _D	0.2	W
Thermal Resistance from Junction to Ambient ⁵	R _{θJA}	625	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55~ +150	°C

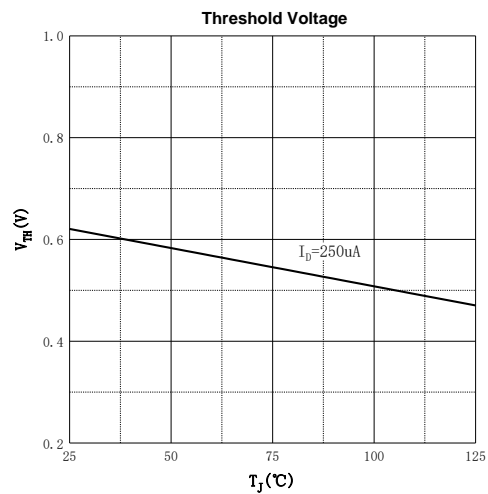
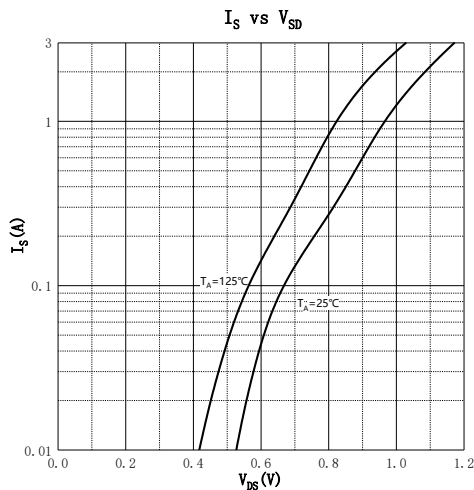
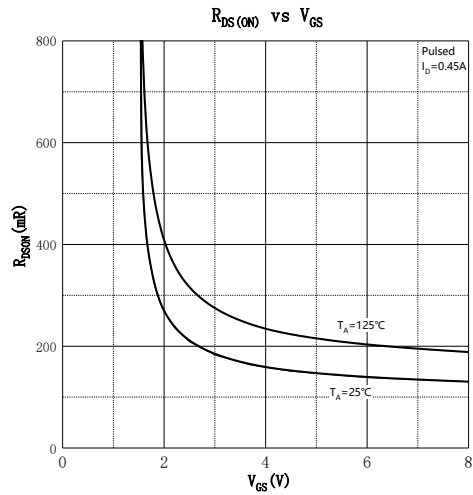
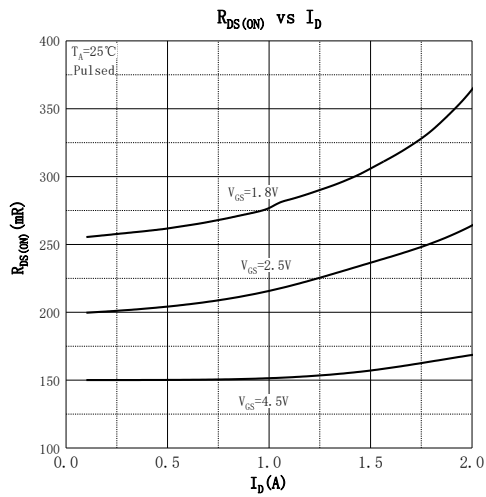
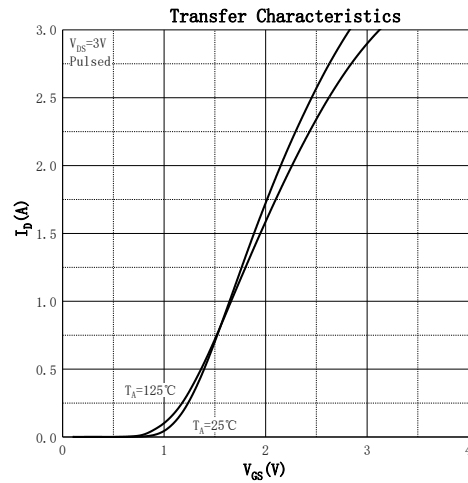
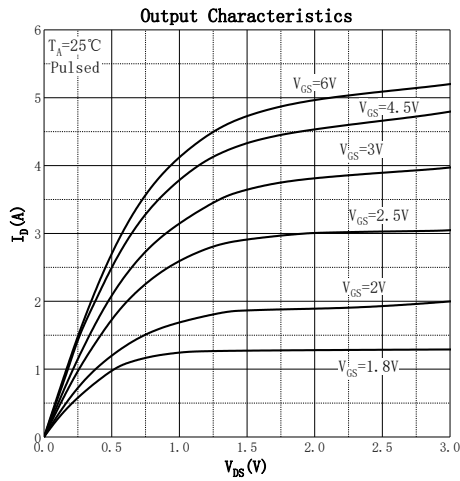
MOSFET ELECTRICAL CHARACTERISTICS (T_J = 25°C unless otherwise noted)

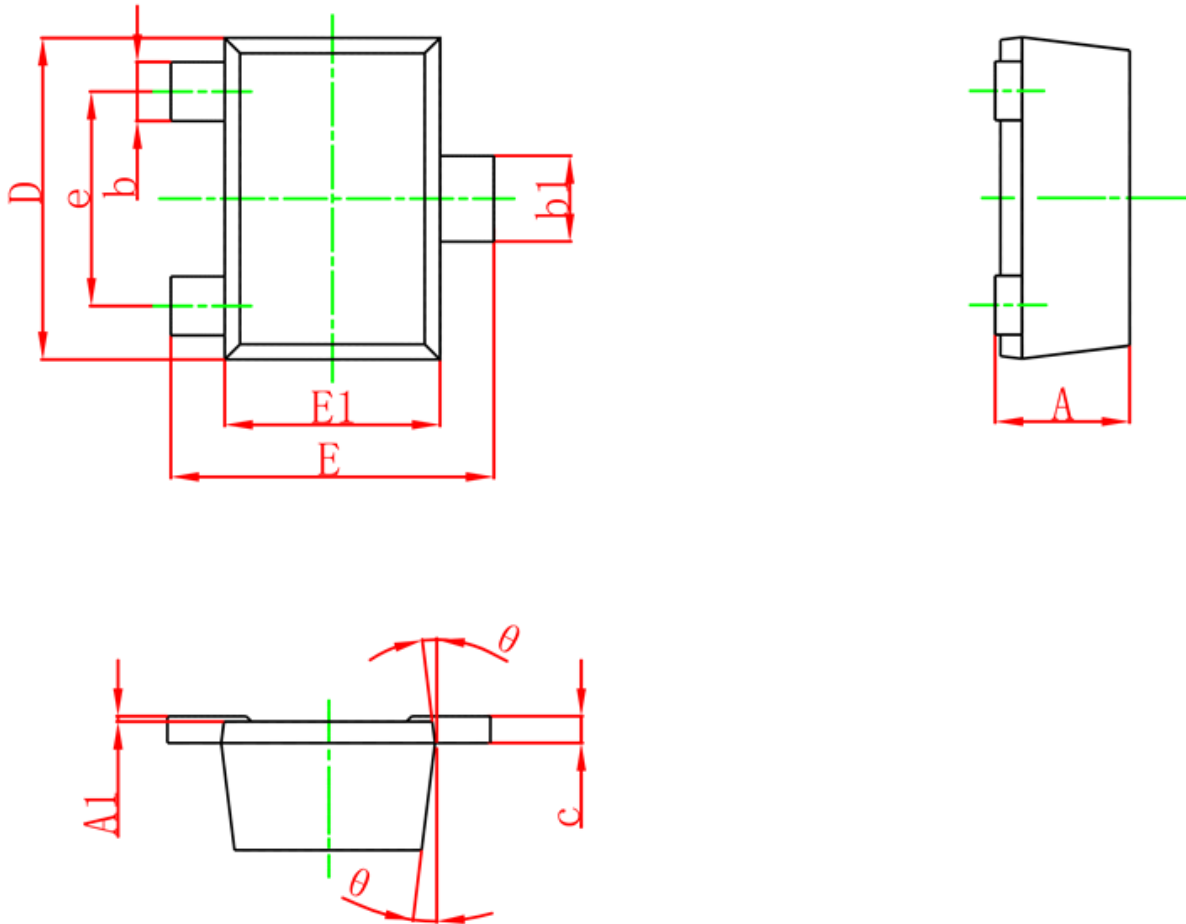
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Off Characteristics						
Drain - Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 20V, V _{GS} = 0V			1	μA
Gate - Body Leakage Current	I _{GSS}	V _{GS} = ±10V, V _{DS} = 0V			±10	μA
On Characteristics³						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	0.4	0.62	0.75	V
Drain-source On-resistance	R _{DS(on)}	V _{GS} = 4.5V, I _D = 0.65A		150	380	mΩ
		V _{GS} = 2.5V, I _D = 0.55A		200	450	
		V _{GS} = 1.8V, I _D = 0.45A		270	800	
Forward Transconductance	g _{FS}	V _{DS} = 5V, I _D = 0.4A	1			S
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} = 10V, V _{GS} = 0V, f = 1MHz		60		pF
Output Capacitance	C _{oss}			13		
Reverse Transfer Capacitance	C _{rss}			11		
Switching Characteristics						
Total Gate Charge	Q _g	V _{DS} = 10V, V _{GS} = 4.5V, I _D = 0.4A		2.13		nC
Gate-source Charge	Q _{gs}			1.12		
Gate-drain Charge	Q _{gd}			0.56		
Turn-on Delay Time	t _{d(on)}	V _{DD} = 10V, V _{GS} = 4.5V, R _L = 25Ω, R _G = 3Ω		6		ns
Turn-on Rise Time	t _r			5.5		
Turn-off Delay Time	t _{d(off)}			27		
Turn-off Fall Time	t _f			12		
Source - Drain Diode Characteristics						
Diode Forward Voltage ³	V _{SD}	V _{GS} = 0V, I _S = 0.15A			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_D is limited by T_{J(MAX)} = 150°C. Pulse width is 10μs, duty cycle is 1%
- 5.Device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with T_A = 25°C.

Typical Characteristics



SOT-723 Package Information


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.340	0.500	0.013	0.020
A1	0.000	0.050	0.000	0.002
b	0.150	0.270	0.006	0.011
b1	0.200	0.370	0.008	0.015
c	0.060	0.160	0.002	0.006
D	1.100	1.300	0.043	0.051
E	1.100	1.300	0.043	0.051
E1	0.700	0.900	0.028	0.035
e	0.8TYP		0.031TYP	
θ	8°REF		8°REF	