



N-Channel Enhancement Mode Field Effect Transistor

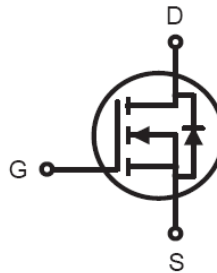
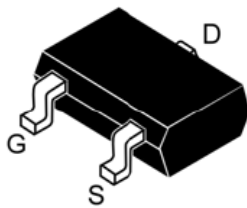
- **Features**

20V/0.8A,RDS(ON)=360m_@VGS=4.5V
20V/0.7A,RDS(ON)=420m_@VGS=2.5V
20V/0.6A,RDS(ON)=560m_@VGS=1.8V
Advanced trench process technology
High-density cell design for ultra low on-resistance
Compact and low profile SOT723 package

- **General Description**

This N-Channel enhancement mode power FETs are produced with high cell density, DMOS trench technology, which is especially used to minimize on-state resistance. This device is particularly suited for low voltage application such as portable equipment, power management and other battery powered circuits, and low in-line power dissipation are needed in a very small outline surface mount package. Excellent thermal and electrical capabilities.

- **Pin Configurations**



SOT723

- **Absolute Maximum Ratings @T_A=25°C unless otherwise noted**

Parameter		Symbol	Ratings	Unit
Drain-Source Voltage		V _{DSS}	20	V
Gate-Source Voltage		V _{GSS}	±12	V
Drain Current	Continuous	I _D	0.7	A
	Pulsed		10	
Power Dissipation		P _D	350	mW
Operating and Storage Junction Temperature Range		T _J , T _{STG}	-55 to +150	°C



- Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise noted

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain–Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}, I_D = 10\mu\text{A}$	20	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 20\text{ V}, V_{GS} = 0\text{ V}$	--	--	1	μA
Gate–Body Leakage	I_{GSS}	$V_{GS} = \pm 8\text{ V}, V_{DS} = 0\text{ V}$	--	--	± 100	nA
ON CHARACTERISTICS⁽¹⁾						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 50\mu\text{A}$	0.4	0.75	1.2	V
Static Drain–Source On-Resistance	$R_{DS(on)}$	$V_{GS} = 4.5\text{ V}, I_D = 0.65\text{ A}$	--	360	--	m Ω
		$V_{GS} = 2.5\text{ V}, I_D = 0.55\text{ A}$	--	420	--	
		$V_{GS} = 2.5\text{ V}, I_D = 0.50\text{ A}$	--	560	--	
Forward Transconductance	g_{FS}	$V_{DS} = 5\text{ V}, I_D = 3.6\text{ A}$	2	7.7	14	S
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{iss}	$V_{DS} = 10\text{ V}, V_{GS} = 0\text{ V},$ $f = 1.0\text{ MHz}$	--	55	--	pF
Output Capacitance	C_{oss}		--	10	--	
Reverse Transfer Capacitance	C_{rss}		--	6	--	
SWITCHING CHARACTERISTICS						
Turn–On Delay Time	$t_{d(on)}$	$V_{DD} = 5\text{ V}, I_D = 3.6\text{ A},$ $V_{GS} = 4.5\text{ V}, R_{GEN} = 6\ \Omega$	--	--	15	nS
Turn–On Rise Time	t_r		--	--	20	
Turn–Off Delay Time	$t_{d(off)}$		--	--	60	
Turn–Off Fall Time	t_f		--	--	25	
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
Diode Forward Voltage ⁽¹⁾	V_{SD}	$V_{GS} = 0\text{ V}, I_S = 1.1\text{ A}$	0.6	0.8	1.15	V

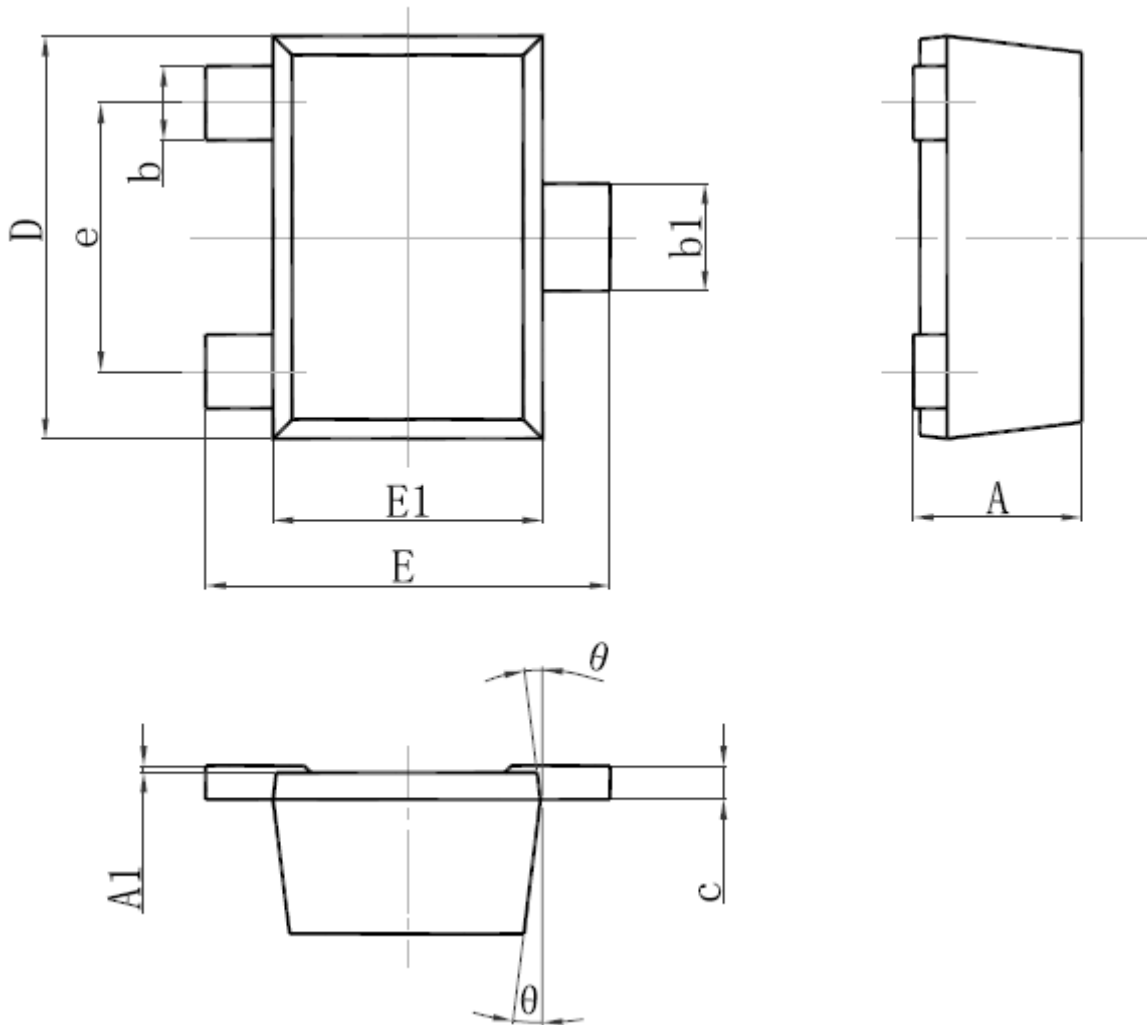
Notes :

(1).Pulse Test : Pulse Width < 300 μs , Duty Cycle < 2%.

(2).Surface Mounted on FR4 Board, t < 10 sec.



SOT723 PACKAGE



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A		0.500		0.020
A1	0.000	0.050	0.000	0.002
b	0.170	0.270	0.007	0.011
b1	0.270	0.370	0.011	0.015
c		0.150		0.006
D	1.150	1.250	0.045	0.049
E	1.150	1.250	0.045	0.049
E1	0.750	0.850	0.030	0.033
e	0.800TYP.		0.031TYP.	
θ	7° REF.		7° REF.	