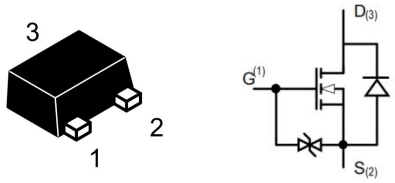
MOSFET Product Summary

V_{DS}	I_D	$R_{DS(on)}$
60V	115mA	<3.0Ω@10V
		<3.5Ω@5.0V

Schematic & Pin configuration



Features and benefits

- 60V Trench DMOS technology
- Low on-state resistance
- Fast switching
- Improved dv/dt capability
- ESD Rating：1000V HBM
- Pb−Free, RoHS Compliant

Applications

- Load switch
- Power management
- Battery operated systems
- Level Shift Circuits
- DC−DC Converter

Maximum Ratings (T_A = 25 °C, unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current (note1)	I_D	115	mA
Pulsed Drain Current (tp=10-s)	I_{DM}	800	mA
Power Dissipation (note1)	P_D	150	mW
Thermal Resistance from Junction to Ambient (note1)	$R_{\theta JA}$	833	°C/W
Junction temperature	T_j	125	°C
Storage temperature	T_{stg}	-50 to +150	°C

Electrical Characteristics (T_A = 25 °C, unless otherwise specified)

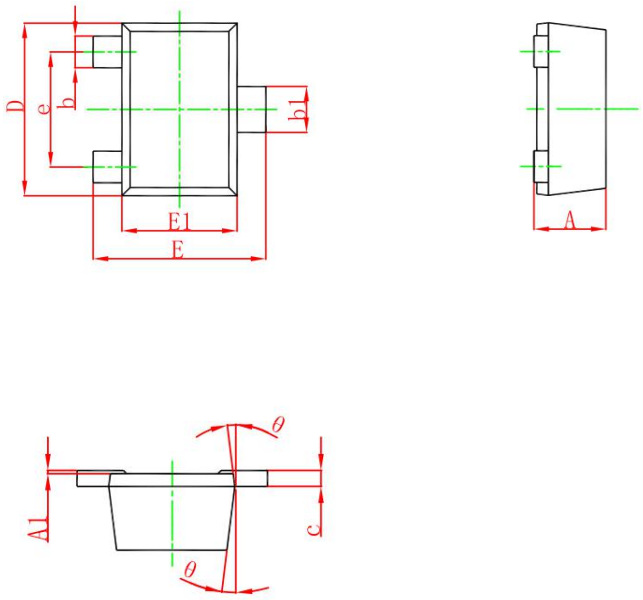
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
STATIC CHARACTERISTICE						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	60			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =48V,V_{GS} = 0V			1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±10	μA
Gate threshold voltage (note2)	$V_{GS(th)}$	V_{DS} =VGS, I_D =250μA	1.0	1.8	2.5	V
Drain-source on-resistance (note2)	$R_{DS(on)}$	V_{GS} =10V, I_D =0.3A			3	Ω
		V_{GS} =5V, I_D =0.3A			3.5	Ω
Maximum Continuous Drain to Source Diode Forward Current	I_S	--			0.15	A
Maximum Pulsed Drain to Source Diode Forward Current	I_{SM}	--			0.8	A
Diode forward voltage	V_{SD}	I_S=0.15A, V_{GS} =0V			1.2	V
DYNAMIC CHARACTERISTICS (note3)						
Input capacitance	C_{iss}	V_{DS} =10V,V_{GS} =0V, f =1MHz			40	pF
Output capacitance	C_{oss}				30	pF
Reverse transfer capacitance	C_{rss}				10	pF
SWITCHING CHARACTERISTICS (note3)						
Turn-on delay time	$t_{d(on)}$	V_{GS}=10V,V_{DS}=30V, I_D=200mA,R_G=3.3Ω			10	nS
Turn-on rise time	t_r				20	nS
Turn-off delay time	$t_{d(off)}$				15	nS
Turn-off fall time	t_f				10	nS
GATE-SOURCE ZENER DIODE						
Gate-Source Breakdown Voltage	B_{VGSO}	I_{GS}=±1mA (Open Drain)	±20		±30	V

Notes:

1. Surface mounted on FR4 board using the minimum recommended pad size.
2. Pulse Test : Pulse Width=300μs, Duty Cycle=2%.
3. These parameters have no way to verify.

Package Outline Dimensions

SOT723



Symbol	Dimensions (mm)	
	Min	Max
A	0.42	0.50
A1	0.00	0.05
b	0.16	0.28
b1	0.25	0.35
c	0.07	0.16
D	1.10	1.30
e	0.8TYP	
E	1.10	1.30
E1	0.75	0.85
θ	8°	10°