

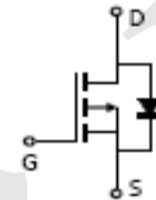
Product Summary

BV_{DSS}	-12 V
$R_{DS(ON)}$	50m Ω
I_D	-4.3A

Application

- Load/Power Switching
- Interfacing Switching
- Logic Level Shift

Circuit diagram



Package and Pin Configuration

SOT-23



Marking: 1F Or F1TPM



Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise noted)

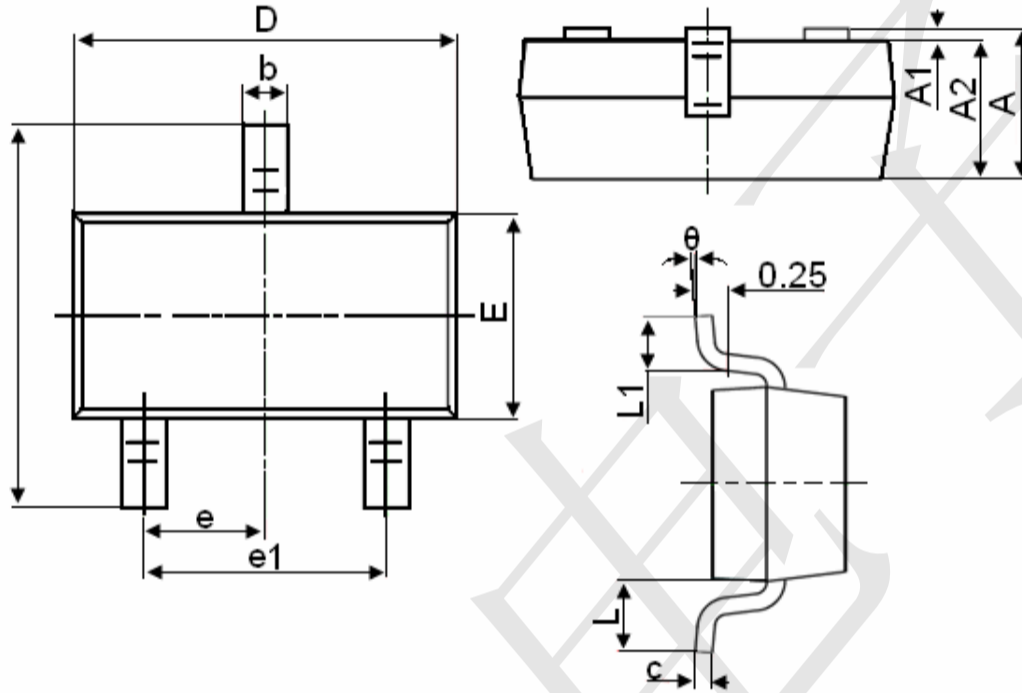
Symbol	Parameter		Max.	Units
V_{DSS}	Drain-Source Voltage		-12	V
V_{GSS}	Gate-Source Voltage		± 8	V
I_D	Continuous Drain Current	$T_A = 25^\circ\text{C}$	-4.3	A
I_{DM}	Pulsed Drain Current ^{note1}		-13	A
P_D	Power Dissipation	$T_A = 25^\circ\text{C}$	1.3	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient		150	$^\circ\text{C/W}$
T_J, T_{STG}	Operating and Storage Temperature Range		-55 to +150	$^\circ\text{C}$

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

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristic						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D = -250\mu A$	-12	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = -20V, V_{GS} = 0V,$	-	-	-1	μA
I_{GSS}	Gate to Body Leakage Current	$V_{DS} = 0V, V_{GS} = \pm 20V$	-	-	± 100	nA
On Characteristics						
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.4	-	-0.95	V
$R_{DS(on)}$	Static Drain-Source on-Resistance <small>note2</small>	$V_{GS} = -4.5V, I_D = -4.3A$	-	-	50	m Ω
		$V_{GS} = -2.5V, I_D = -2.5A$	-	-	85	
V_{SD}	Drain to Source Diode Forward Voltage				-1.2	V
Dynamic Characteristics						
C_{iss}	Input Capacitance	$V_{DS} = -10V, V_{GS} = 0V,$ $f = 1\text{ MHz}$	-	830	-	pF
C_{oss}	Output Capacitance		-	180	-	pF
Switching Characteristics						
$t_{d(on)}$	Turn-on Delay Time	$(V_{DS} = 5V, V_{GS} = 4.5V$ $, R_{GEN} = 6\Omega)$	-	11	-	ns
$t_{d(off)}$	Turn-off Delay Time		-	250	-	ns



SOT-23 Package Information



Symbol	Dimensions in Millimeters	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

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