

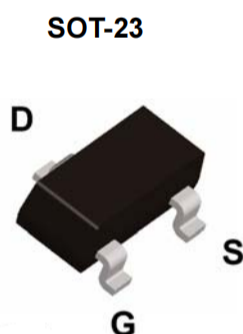
Product Summary

- $V_{DS} = -150V, I_D = 0.9A$
- $R_{DS(ON)} = 750m\Omega (Typ) @ V_{GS} = 10V$

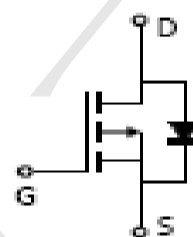
Application

- Load Switch
- Active Clamp Switch

Package and Pin Configuration



Circuit diagram



Marking: D5TPM

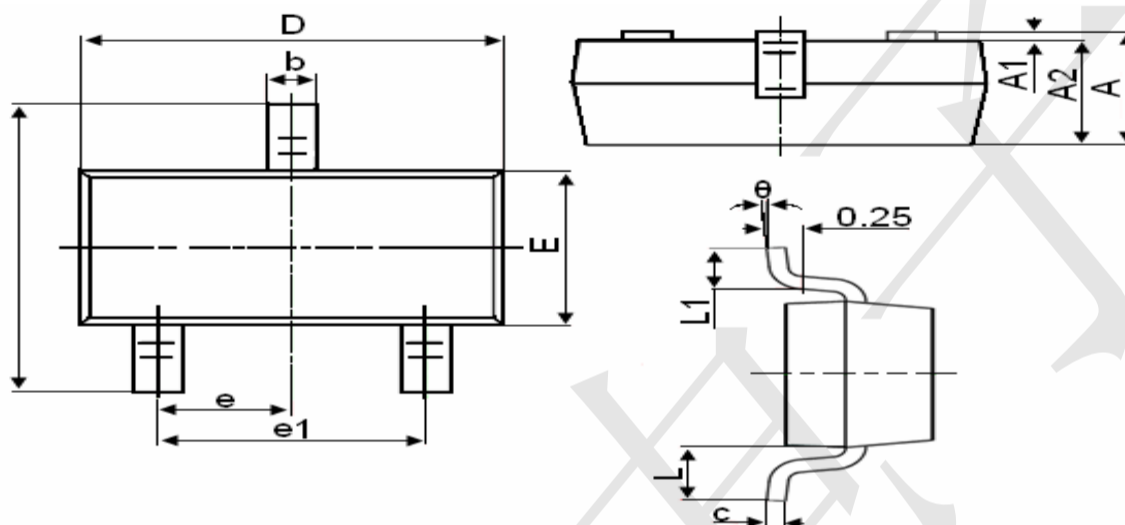
Absolute Maximum Ratings ($T_A = 25^\circ C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-150	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current	I_D	-0.9	A
Pulsed Diode Current	I_{DM}	-1.8	
Power Dissipation	PD	1.1	W
Thermal Resistance from Junction to Ambient ($t \leq 10s$)	$R_{\theta JA}$	80	$^\circ C/W$
Operating Junction	T_J	150	$^\circ C$
Storage Temperature	T_{STG}	-55~+150	$^\circ C$

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Drain-source breakdown voltage	$V(BR)_{DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-150			V
Gate-source threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-2.0	-3.0	-4.0	V
Gate-source leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	nA
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -120V, V_{GS} = 0V$			-1	μA
Drain-source on-state resistancea	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -1A$		750	950	m Ω
Forward transconductancea	g_{fs}	$V_{DS} = -10V, I_D = -0.8A$		1.5		S
Diode forward voltage	V_{SD}	$I_S = -1A, V_{GS} = 0V$		-0.8	-1.3	V
Dynamic						
Input capacitance	C_{iss}	$V_{DS} = -75V, V_{GS} = 0V, f = 1MHz$		175		pF
Output capacitance	C_{oss}			17		pF
Reverse transfer capacitanceb	C_{rss}			1.8		pF
Total gate charge	Q_g	$V_{GS} = 0V \text{ to } -10V$ $V_{DD} = -75V, I_D = -0.8A$		2.9		nC
Gate-source charge	Q_{gs}			0.8		nC
Gate-drain charge	Q_{gd}			0.8		nC
Gate resistance	R_g		0.1		7.2	Ω
Switchingbtr						
Turn-on delay time	$t_{d(on)}$	$V_{DS} = -75V, I_D = -0.8A$ $R_{GEN} = 6.0\Omega, V_{GS} = -10V$		6		ns
Rise time	t_r			2		ns
Turn-off delay time	$t_{d(off)}$			8		ns
Fall time	t_f			10		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°