

P-Channel Enhancement MOSFET

Product Summary

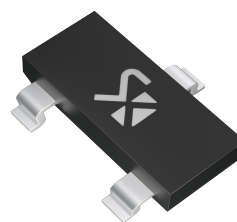
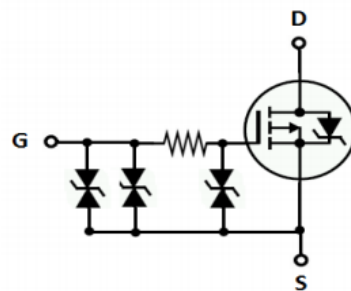
- V_{DS} -12V
- I_D -4.12A
- $R_{DS(ON)}$ (@ $V_{GS}=-4.5V$) <32 mohm
- $R_{DS(ON)}$ (@ $V_{GS}=-2.5V$) <40 mohm

Features

- Advanced trench process technology
- High Density Cell Design For Ultra Low On-Resistance
- ESD Protection

Applications

- DC-DC Converters
- Power management functions



SOT-23

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

Parameter		Symbol	Limit	Unit
Drain-source Voltage		V_{DS}	-12	V
Gate-source Voltage		V_{GS}	± 8	V
Continuous Drain Current ¹⁾		I_D	-4.12	A
Pulsed Drain Current ²⁾		I_{DM}	-15.67	A
Maximum Power Dissipation	$T_A=25^{\circ}C$	P_D	0.89	W
	$T_A=75^{\circ}C$		0.54	W
Thermal Resistance Junction-to-Ambient		$R_{\theta JA}$	140	$^{\circ}C/W$
Junction and Storage Temperature Range		T_J, T_{STG}	-55~+150	$^{\circ}C$

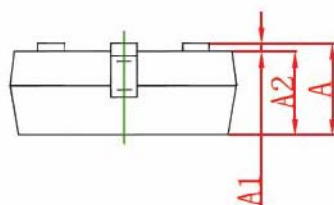
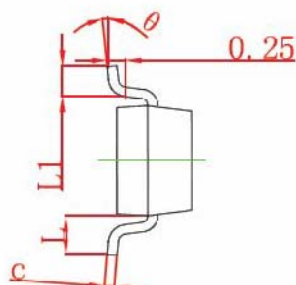
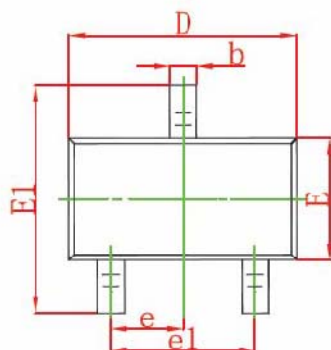
Note: 1. Fused current that based on wire numbers and diameter

2. Repetitive Rating: Pulse width limited by the maximum junction temperature

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

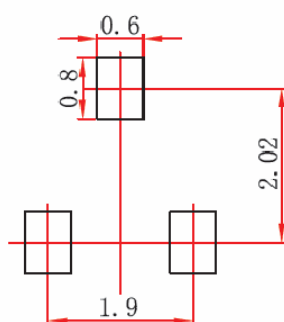
Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} = 0V, I _D =-250μA	-12			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-12V,V _{GS} =0V			-1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} = ±8V, V _{DS} =0V			±10	μA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D =-250μA	-0.5	-0.7	-0.84	V
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} = -4.5V, I _D =-0.2A		27	32	mΩ
		V _{GS} = -2.5V, I _D =-0.2A		32	40	
		V _{GS} = -1.8V, I _D =-0.2A		42.5	71	
Source-Drain Diode						
Diode Forward Voltage	V _{SD}	I _S =-1.0A,V _{GS} =0V		-0.8	-1.5	V

SOT-23 Package Information



Symbol	Dimensions in Millimeters		Dimensions in Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.