

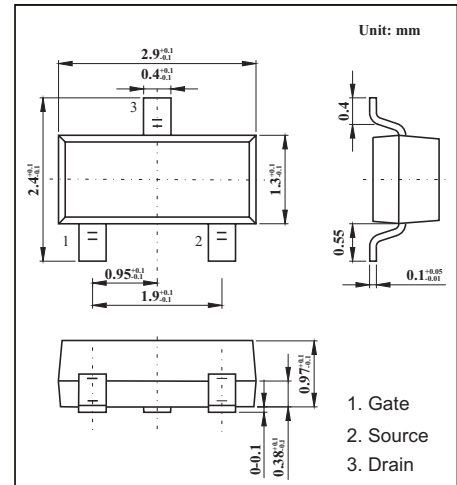
SOT-23 Plastic-Encapsulate MOSFETS

Features

- P-Channel -60V (D-S) MOSFET
- T ● TrenchFET Power MOSFET

MECHANICAL DATA

- Case style: SOT-23 molded plastic
- Mounting position: any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Rating	Unit
Drain-source voltage	V _{DS}	-60	V
Gate-source voltage	V _{GS}	±20	V
Continuous drain current (T _J = 150°C) *1, 2 T _A = 25°C T _A = 100°C	I _D	-1.25 -0.85	A
Pulsed drain current	I _{DM}	-8	A
Avalanche Current L = 0.1 mH	I _{AS}	-5	A
Maximum Power dissipation *1, 2 T _A = 25°C T _A = 70°C	P _D	1.25 0.8	W
Operating junction and storage temperature range	T _J , T _{stg}	-55 to +150	°C

*1 Surface Mounted on FR4 Board.

*2 t ≤ 5 sec

Thermal Resistance Ratings T_a = 25 °C

Parameter	Symbol	Typical	Maximum	Unit
Maximum Junction to Ambient* t ≤ 5 sec Steady State	R _{thJA}	130	100 166	°C/W
Maximum Junction-to-Lead* Steady State	R _{thJL}	45	60	

* Surface Mounted on FR4 Board.

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0 V, I _D = -250 μA	-60			V
Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250 μA	-1			
Gate-body leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±20 V			±100	nA
Zero gate voltage drain current	I _{DSS}	V _{DS} = -4.8 V, V _{GS} = 0 V			-1	μA
		V _{DS} = -48 V, V _{GS} = 0 V, T _J = 125 °C			-50	
On-state drain current	I _{D(on)}	V _{DS} ≥ -4.5 V, V _{GS} = -1.0 V	-6			A
Drain-source on-state resistance	r _{DS(on)}	V _{GS} = -1.0 V, I _D = -1.25 A		0.275	0.340	Ω
		V _{GS} = -4.5 V, I _D = -1 A		0.406	0.550	
Forward transconductance	g _{fs}	V _{DS} = -4.5 V, I _D = -1 A		1.9		S
Total gate charge *	Q _g	V _{DS} = -3.0 V, V _{GS} = -1.0 V, I _D = -1.25 A		5.4	12	nC
Gate-source charge *	Q _{gs}		1.15			
Gate-drain charge *	Q _{gd}		0.92			
Turn-On Delay Time	t _{d(on)}	V _{DD} = -3.0 V, R _L = 30 Ω I _D = -1 A, V _{GEN} = -4.5 V, R _G = 6 Ω		10.5	20	ns
Rise Time	t _r		11.5	20		
Turn-Off Delay Time	t _{d(off)}		15.5	30		
Fall Time	t _f		7.5	15		
Continuous Current	I _S				-1.25	A
Pulsed Current	I _{SM}				-8	A
Diode Forward Voltage*	V _{SD}	I _S = -1.25 A, V _{GS} = 0 V	-0.82		-1.2	V
Source-Drain Reverse Recovery Time	t _{rr}	I _F = -1.25 A, di/dt = 100 A/μs		30	55	ns

* Pulse test: PW ≤ 300 μs duty cycle ≤ 2%.