

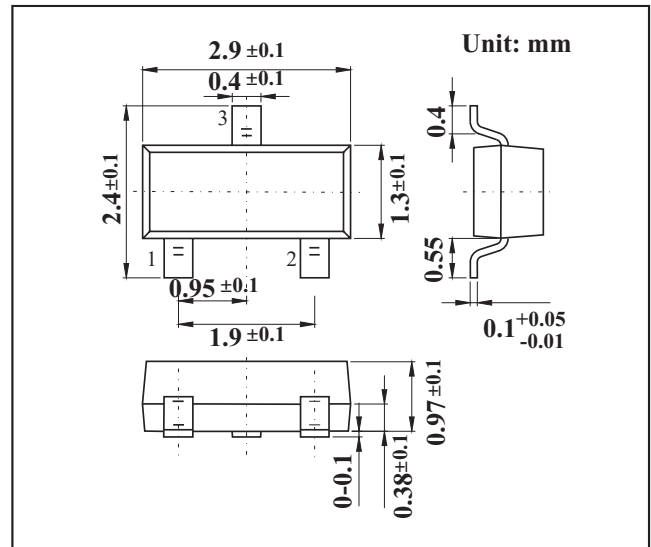
SOT-23 Plastic-Encapsulate MOSFETS

Features

- TrenchFET Power MOSFET
- 100% Rg Tested
- N-Channel 30-V (D-S) MOSFET

MECHANICAL DATA

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



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Rating	Unit
Drain-source voltage	V _{DS}	30	V
Gate-source voltage	V _{GS}	±20	V
Continuous drain current (T _J = 150°C) *1, 2 T _A =25 °C T _A =70°C	I _D	3.5 2.8	A
Pulsed drain current	I _{DM}	16	A
Continuous source current (diode conduction) *1,2	I _S	1.25	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 _{slg}	- 55 to + 150	°C
Maximum Junction to Ambienta Steady State	R _{thJA}	100 130	°C/W

*1 Surface Mounted on FR4 Board.

*2 t ≤ 5 sec

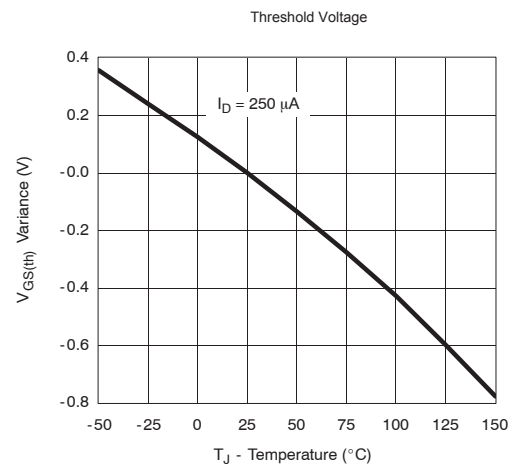
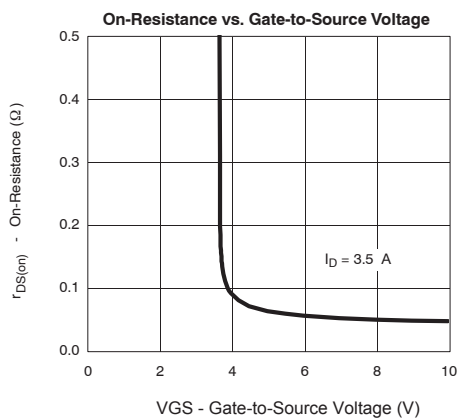
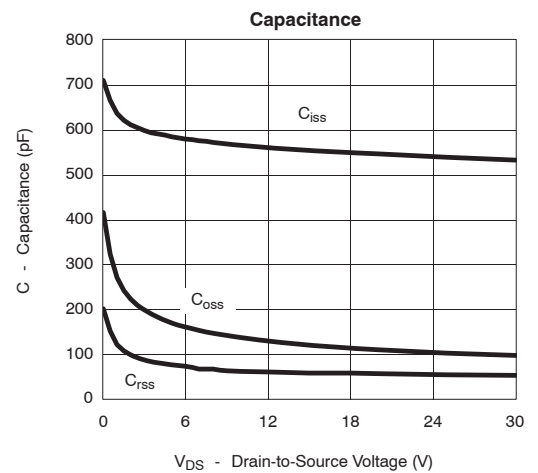
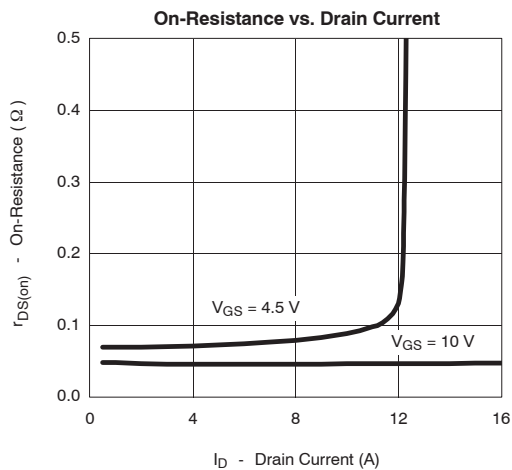
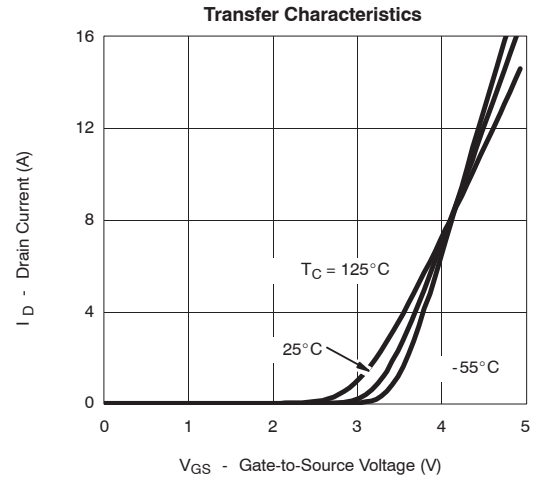
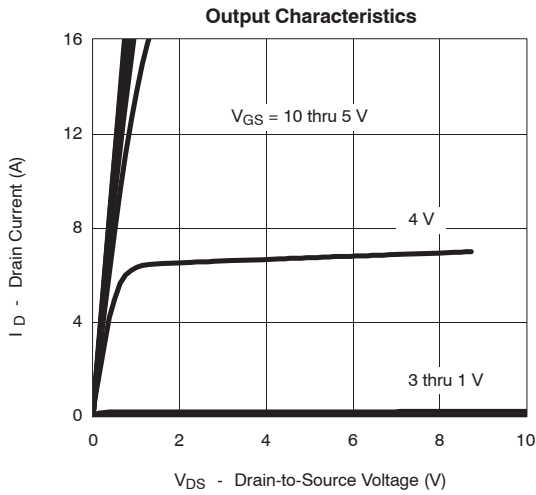
MOSFET ELECTRICAL CHARACTERISTICS Ta=25 °C unless otherwise specified

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0 V , I _D = 250 μA	30			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} = 30V, V _{GS} = 0 V			0.5	μA
		V _{DS} = 30V, V _{GS} = 0 V , T _J = 55 °C			10	
On-state drain current	I _{D(on)}	V _{DS} ≥ 4.5 V, V _{GS} = 10 V	6			A
		V _{DS} ≥ 4.5 V, V _{GS} = 4.5 V	4			
Drain-source on-state resistance	r _{DS(on)}	V _{GS} = 10 V , I _D = 3.5 A		0.046	0.057	Ω
		V _{GS} = 4.5 V, I _D = 2.8 A		0.070	0.094	
Forward transconductance	g _{fs}	V _{DS} = 4.5 V, I _D = 3.5 A		6.9		S
Diode forward voltage	V _{SD}	I _S = 1.25 A , V _{GS} = 0 V		0.8	1.2	V
gate charge *	Q _g	V _{DS} = 15V , V _{GS} = 5V , I _D = 3.5 A		4.2	7	nC
Total gate charge *	Q _{gt}	V _{DS} = 15V , V _{GS} = 10 V , I _D = 3.5 A		8.5	20	nC
Gate-source charge *	Q _{gs}			1.9		
Gate-drain charge *	Q _{gd}			1.35		
Gate Resistance	R _g		0.5		2.4	Ω
Input capacitance *	C _{iss}	V _{DS} = 15V , V _{GS} = 0 , f = 1 M H z		555		pF
Output capacitance *	C _{oss}			120		
Reverse transfer capacitance *	C _{rss}			60		
Turn-on time	t _{d(on)}	V _{DD} = 15 V , R _L = 15Ω , I _D = 1 A , V _{GEN} = -10V , R _G = 6 Ω		9	02	ns
	t _r			7.5	18	
Turn-off time	t _{d(off)}			17	35	
	t _f			5.2	12	

* Pulsetest: P W ≤ 300 μs duty cycle ≤ 2%.

RATINGS AND CHARACTERISTIC CURVES

Typical Characteristics



RATINGS AND CHARACTERISTIC CURVES

