

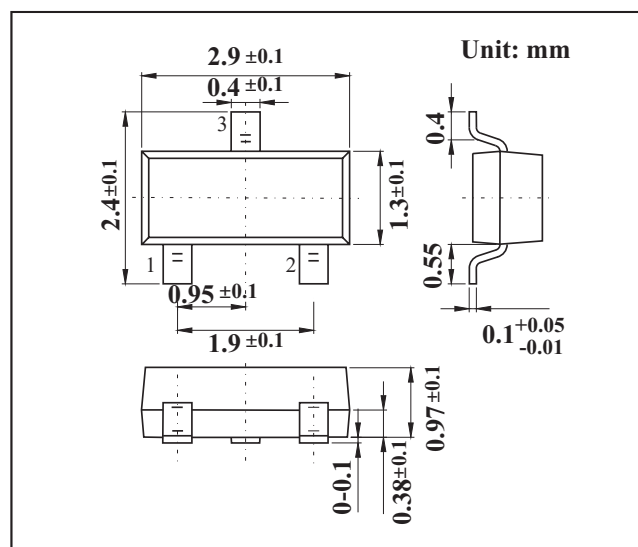
SOT-23 Plastic-Encapsulate MOSFETS

FEATURE

- TrenchFET Power MOSFET
- N-Channel Enhancement Mode Field Effect Transistor

MECHANICAL DATA

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



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	3.6	A
Drain Current-Pulsed (note 1)	I_{DM}	15	A
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55~+150	°C

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
30V	65 mΩ@10V	3.6A
	105 mΩ@4.5V	

MOSFET ELECTRICAL CHARACTERISTICS $T_a=25\text{ }^{\circ}\text{C}$ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
STATIC PARAMETERS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	30			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 24V, V_{GS} = 0V$			1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100	nA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1		3	V
Drain-source on-resistance (note 2)	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 3.6A$			65	m Ω
		$V_{GS} = 4.5V, I_D = 2.8A$			105	m Ω
Forward tranconductance (note 2)	g_{FS}	$V_{DS} = 5V, I_D = 3.6A$	3			S
Diode forward voltage	V_{SD}	$I_S = 1A$			1	V
DYNAMIC PARAMETERS (note 3)						
Input capacitance	C_{iss}	$V_{DS} = 15V, V_{GS} = 0V, f = 1MHz$			375	pF
Output capacitance	C_{oss}			57		pF
Reverse transfer capacitance	C_{rss}			39		pF
Gate resistance	R_g	$V_{DS} = 0V, V_{GS} = 0V, f = 1MHz$			6	Ω
SWITCHING PARAMETERS (note 3)						
Turn-on delay time	$t_{d(on)}$	$V_{GS} = 10V, V_{DS} = 15V,$ $R_L = 2.2\Omega, R_{GEN} = 3\Omega$		4.6		ns
Turn-on rise time	t_r			1.9		ns
Turn-off delay time	$t_{d(off)}$			20.1		ns
Turn-off fall time	t_f			2.6		ns

Notes :

1. Repetitive Rating : Pulse width limited by maximum junction temperature.
2. Pulse Test : Pulse width $\leq 300\mu s$, duty cycle $\leq 0.5\%$.
3. These parameters have no way to verify.

RATINGS AND CHARACTERISTIC CURVES

