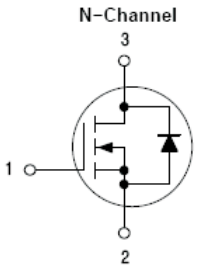
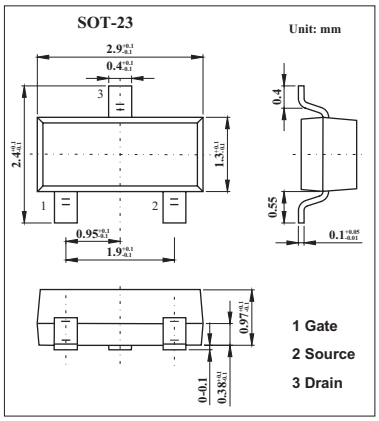
Power MOSFET 200 mA, 50 V

KSS138

Features

- N-Channel SOT-23





Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Drain-to-source voltage	V_{DSS}	50	V
Gate-to-source voltage - continuous	V_{GS}	±20	V
Drain Current continuous @ T_A = 25℃	I_D	200	mA
pulsed drain current (tp ⩽ 10 μs)	I_{DM}	800	mA
Total power dissipation @ T_A = 25℃	P_D	225	mW
Operating and storage temperature range	T_J, T_{stg}	-55 to 150	℃
Thermal resistance,junction-to-ambient	$R_{\theta JA}$	556	℃/W
Maximum lead temperature for soldering purposes, for 10 seconds	T_L	260	℃

KSS138

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain-to-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0 V, I_D = 250 μA	50			V
Zero gate voltage drain current	I_{DSS}	V_{DS} = 25 V, V_{GS} = 0			0.1	μA
		V_{DS} = 50 V, V_{GS} = 0			0.5	μA
Gate-source leakage current	I_{GSS}	V_{GS} = ± 20 V, V_{DS} = 0			±0.1	μA
Gate-source threshold voltage *	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 1.0 mA	0.5		1.5	V
Static drain-to-source on-rResistance *	$r_{DS(on)}$	V_{GS} = 2.75 V, I_D < 200 mA, T_A = -40 to +85℃		5.6	10	Ω
		V_{GS} = 5.0 V, I_D = 200 mA			3.5	Ω
Forward transconductance *	g_{fs}	V_{DS} = 25 V, I_D = 200 mA, f = 1.0 kHz	100			mmhos
Input capacitance	Ciss	V_{DS} = 25 V, V_{GS} = 0, f = 1 MHz		40	50	pF
Output capacitance	Coss			12	25	pF
Transfer capacitance	Crss			3.5	5	pF
Turn-on delay time	$t_{d(on)}$	V_{DD} = 30 V, I_D = 0.2 A			20	ns
Turn-off delay time	$t_{d(off)}$				20	ns

* Pulse Width ⩽ 300 μs, Duty Cycle ⩽ 2%.

■ Marking

Marking	J1