

SMD Type

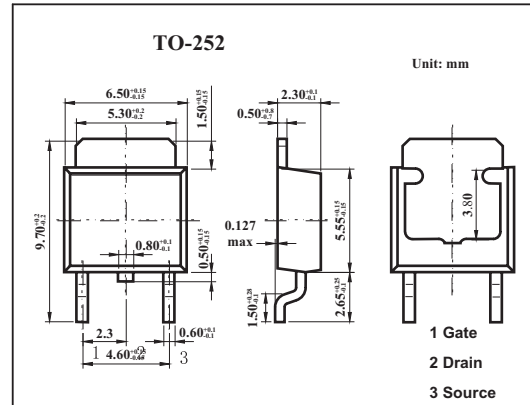
MOSFET

MOS Field Effect Transistor

2SK3918

■ Features

- Low on-state resistance
RDS(on)1 = 7.5 mΩ MAX. (VGS = 10 V, ID = 24 A)
- Low Ciss: Ciss = 1300 pF TYP.
- 5 V drive available



■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Drain to source voltage	V _{DSS}	25	V
Gate to source voltage	V _{GSS}	±20	V
Drain current	I _D	±48	A
	I _{dp} *	±192	A
Power dissipation	P _D	T _A =25°C	1.0
		T _C =25°C	29
Channel temperature	T _{ch}	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

* PW ≤ 10 μs, Duty Cycle ≤ 1%

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain cut-off current	I _{DSS}	V _{DS} =25V, V _{GS} =0			10	μA
Gate leakage current	I _{GSS}	V _{GS} =±20V, V _{DS} =0			±100	nA
Gate cut off voltage	V _{GS(off)}	V _{DS} =10V, I _D =1mA	2.5	2.5	3.0	V
Forward transfer admittance	Y _{fs}	V _{DS} =10V, I _D =12A	6	12		S
Drain to source on-state resistance	R _{DS(on)1}	V _{GS} =10V, I _D =24A		5.9	7.5	mΩ
	R _{DS(on)2}	V _{GS} =5.0V, I _D =12A		11	22.2	mΩ
Input capacitance	C _{iss}	V _{DS} =10V, V _{GS} =0, f=1MHZ		1300		pF
Output capacitance	C _{oss}				310	pF
Reverse transfer capacitance	C _{rss}				220	pF
Turn-on delay time	t _{on}	I _D =24A, V _{GS(on)} =10V, R _G =10Ω, V _{DD} =12.5V		13		ns
Rise time	t _r				14	ns
Turn-off delay time	t _{off}				38	ns
Fall time	t _f				14	ns
Total Gate Charge	Q _G	V _{DD} = 20V		28		nC
Gate to Source Charge	Q _{GS}	V _{GS} = 10 V		5		nC
Gate to Drain Charge	Q _{GD}	I _D = 48A		10		nC
Body Diode Forward Voltage	V _{F(S-D)}	I _F = 48A, V _{GS} = 0 V		0.98		V
Reverse Recovery Time	t _{rr}	I _F = 48 A, V _{GS} = 0 V		27		ns
Reverse Recovery Charge	Q _{rr}	di/dt = 100 A/μs		15		nC