

SMD Type

MOSFET

MOS Field Effect Transistor 2SK3813

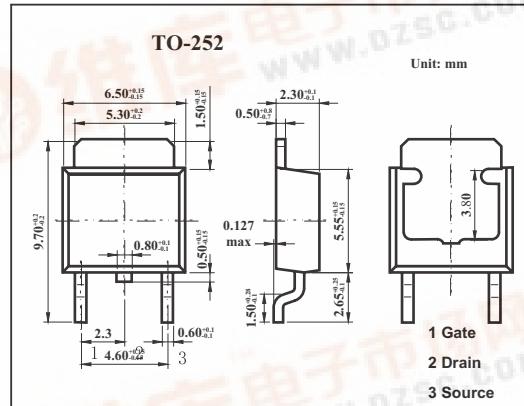
■ Features

- Low On-state resistance

$R_{DS(on)1} = 5.3 \text{ m}\Omega \text{ MAX. } (V_{GS} = 10 \text{ V}, I_D = 30 \text{ A})$

$R_{DS(on)2} = 7.1 \text{ m}\Omega \text{ MAX. } (V_{GS} = 4.5 \text{ V}, I_D = 30 \text{ A})$

- Low C_{iss}: C_{iss} = 5500 pF TYP.



■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Drain to source voltage	V _{DSS}	40	V
Gate to source voltage	V _{GSS}	±20	V
Drain current	I _D	±60	A
	I _{Dp} *	±240	A
Power dissipation T _A =25°C T _C =25°C	P _D	1.0	W
		84	
Channel temperature	T _{ch}	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

* PW≤10 μ s, Duty Cycle≤1%

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain cut-off current	I _{DSS}	V _{Ds} =40V, 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	1.5	2.0	2.5	V
Forward transfer admittance	Y _{fs}	V _{Ds} =10V, I _D =30A	21	42		S
Drain to source on-state resistance	R _{DS(on)1}	V _{GS} =10V, I _D =30A		4.2	5.3	mΩ
	R _{DS(on)2}	V _{GS} =4.5V, I _D =30A		5.3	7.1	mΩ
Input capacitance	C _{iss}	V _{Ds} =10V, V _{GS} =0, f=1MHZ		5500		pF
Output capacitance	C _{oss}			740		pF
Reverse transfer capacitance	C _{rss}			490		pF
Turn-on delay time	t _{on}	I _D =30A, V _{GS(on)} =10V, R _G =0 Ω, V _{DD} =20V		25		ns
Rise time	t _r			8.5		ns
Turn-off delay time	t _{off}			81		ns
Fall time	t _f			10		ns
Total Gate Charge	Q _G			96		nC
Gate to Source Charge	Q _{GS}	V _{DD} = 32V V _{GS} = 10 V I _D = 60A		18		nC
Gate to Drain Charge	Q _{GD}			23.5		nC