

2SK3683-01MR (500V/0.38Ω/19A)

1) Package

TO-220F15R

2) Absolute Maximum Ratings (Tc=25°C unless otherwise specified)

Items	Symbols	Ratings	Units
Drain-Source Voltage	V _{DS}	500	V
Continuous Drain Current	I _D	±19	A
Pulsed Drain Current	I _{D(pulse)}	±76	A
Gate-Source Voltage	V _{GS}	±30	V
Repetitive and Non-Repetitive Maximum Avalanche Current	I _{AR}	19	A
Non-Repetitive Maximum Avalanche Energy	E _{AS}	245.3	mJ *1
Maximum Drain-Source dV/dt	dV _{DS} /dt	20	kV/us
Peak Diode recovery dV/dt	dV/dt	5	kV/us *2
Maximum Power Dissipation	P _{D @Tc=25°C}	95	W
	P _{D @Ta=25°C}	2.16	W
Operating and Storage Temperature range	T _{ch} T _{stg}	150 -55 ~ +150	

3) Electrical Characteristics (Tch=25°C unless otherwise specified)

Items	Symbols	Test Conditions	min.	typ.	max.	Units
Drain-Source Breakdown Voltage	BV _{DSS}	I _D =250uA V _{GS} =0V	500	---	---	V
Gate Threshold Voltage	V _{GS(th)}	I _D =250uA V _{DS} =V _{GS}	3.0	---	5.0	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =500V T _{ch} =25	---	---	25	μA
		V _{GS} =0V T _{ch} =125	---	---	250	μA
Gate-Source Leakage Current	I _{GSS}	V _{GS} =±30V V _{DS} =0V	---	---	100	μA
Drain-Source On-State Resistance	R _{DS(on)}	I _D =9.5A V _{GS} =10V	---	---	0.38	Ω
Input Capacitance	C _{iss}	V _{DS} =25V	---	1580	2370	pF
Output Capacitance	C _{oss}	V _{GS} =0V	---	240	360	
Reverse Transfer Capacitance	C _{rss}	f=1MHz	---	12	18	
Total Gate Charge	Q _g	V _{CC} =250V	---	32	48	nC
Gate to Source Charge	Q _{gs}	I _D =19A	---	16	24	
Gate to Drain (Miller) Charge	Q _{gd}	V _{GS} =10V	---	12	18	
Avalanche Capability	I _{AV}	L=1.25mH Tch=25	19	---	---	A
Diode Forward On-Voltage	V _{SD}	I _F =19A, V _{GS} =0V, Tch=25°C	---	1.0	1.5	V

4) Thermal Characteristics

Items	Symbols	Test Conditions	min.	typ.	max.	Units
Channel to Case	R _{th(ch-c)}				1.316	/W
Channel to Ambient	R _{th(ch-a)}				58.0	/W

*1 L=1.25mH, V_{CC}=50V*2 I_F ≤ -I_D, -di/dt=50A/μs, V_{CC} ≤ BV_{DSS}, Tch ≤ 150°C

This material and the information herein is the property of Fuji Electric Co., Ltd. They shall be neither reproduced, copied, lent, or disclosed in any way whatsoever for the use of any third party nor used for the manufacturing purposes without the express written consent of Fuji Electric Co., Ltd.

DATE	NAME	APPROVED	Fuji Electric Co., Ltd.	
DRAWN Sep. -02-'02	Y. HARA		DWG. NO.	MT5F12582 1/1
CHECKED Sep. -02-'02	T. Yamada	T. HOSEN		
REVISIONS				

This datasheet has been downloaded from:

www.DatasheetCatalog.com

Datasheets for electronic components.



LittleDiode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

LittleDiode.com

Looking forward to providing you with the best possible service.