

2SK3518-01MR

- 1.Scope** This specifies Fuji Power MOSFET 2SK3518-01R
- 2.Construction** N-Channel enhancement mode power MOSFET
- 3.Applications** for Switching
- 4.Outview** TO-220F

5.Absolute Maximum Ratings at Tc=25°C (unless otherwise specified)

Description	Symbol	Characteristics	Unit	Remarks
Drain-Source Voltage	V_{DS}	500	V	
Continuous Drain Current	I_D	± 5	A	
Pulsed Drain Current	I_{DP}	± 20	A	
Gate-Source Voltage	V_{GS}	± 30	V	
Maximum Avalanche Current	I_{AR}	5	A	Tch \leq 150°C
Maximum Avalanche Energy	E_{AV}	138	mJ	L=10mH Vcc=50V
Maximum Drain-Source dV/dt	d V_{DS} /dt	20	kV/ μ s	VDS \leq 500V
Peak Diode Recovery dV/dt	dV/dt	5	kV/ μ s	*1
Maximum Power Dissipation	P_D	2.2	W	Ta=25°C
		20		Tc=25°C
Operating and Storage Temperature range	T _{ch}	150	°C	
	T _{stg}	-55 to +150	°C	

*1 $I_F \leq I_D, -di/dt = 50A/\mu s, V_{CC} \leq BV_{DSS}, T_{ch} \leq 150^\circ C$ **6.Electrical Characteristics at Tc=25°C (unless otherwise specified)****Static Ratings**

Description	Symbol	Conditions	min.	typ.	max.	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D = 250\mu A$ $V_{GS} = 0V$	500	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	$I_D = 250\mu A$ $V_{DS} = V_{GS}$	3.0	-	5.0	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 500V$ $V_{GS} = 0V$ T _{ch} =25°C	-	-	25	μA
		$V_{DS} = 400V$ $V_{GS} = 0V$ T _{ch} =125°C	-	-	250	
Gate-Source Leakage Current	I_{GSS}	$V_{GS} = \pm 30V$ $V_{DS} = 0V$	-	10	100	nA
Drain-Source On-State Resistance	$R_{DS(on)}$	$I_D = 2.5A$ $V_{GS} = 10V$	-	1.15	1.50	Ω

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Dynamic Ratings

Description	Symbol	Conditions	min.	typ.	max.	Unit
Forward Transconductance	g_{fs}	$I_D=2.5A$ $V_{DS}=25V$		(3)	-	S
Input Capacitance	C_{iss}	$V_{DS}=25V$	-	(450)		pF
Output Capacitance	C_{oss}	$V_{GS}=0V$	-	(65)		
Reverse Transfer Capacitance	C_{rss}	$f=1MHz$	-	(10)		
Turn-On Time	$t_{d(on)}$	$V_{cc}=300V$	-	(20)		ns
	t_r	$V_{GS}=10V$	-	(15)		
Turn-Off Time	$t_{d(off)}$	$I_D=2.5A$	-	(45)		
	t_f	$R_{GS}=10\Omega$	-	(20)		
Total Gate Charge	Q_G	$V_{cc}=300V$	-	(15)		nC
Gate-Source Charge	Q_{GS}	$I_D=5A$	-	(5)		
Gate-Drain Charge	Q_{GD}	$V_{GS}=10V$	-	(3)		

Reverse Diode

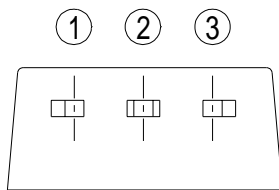
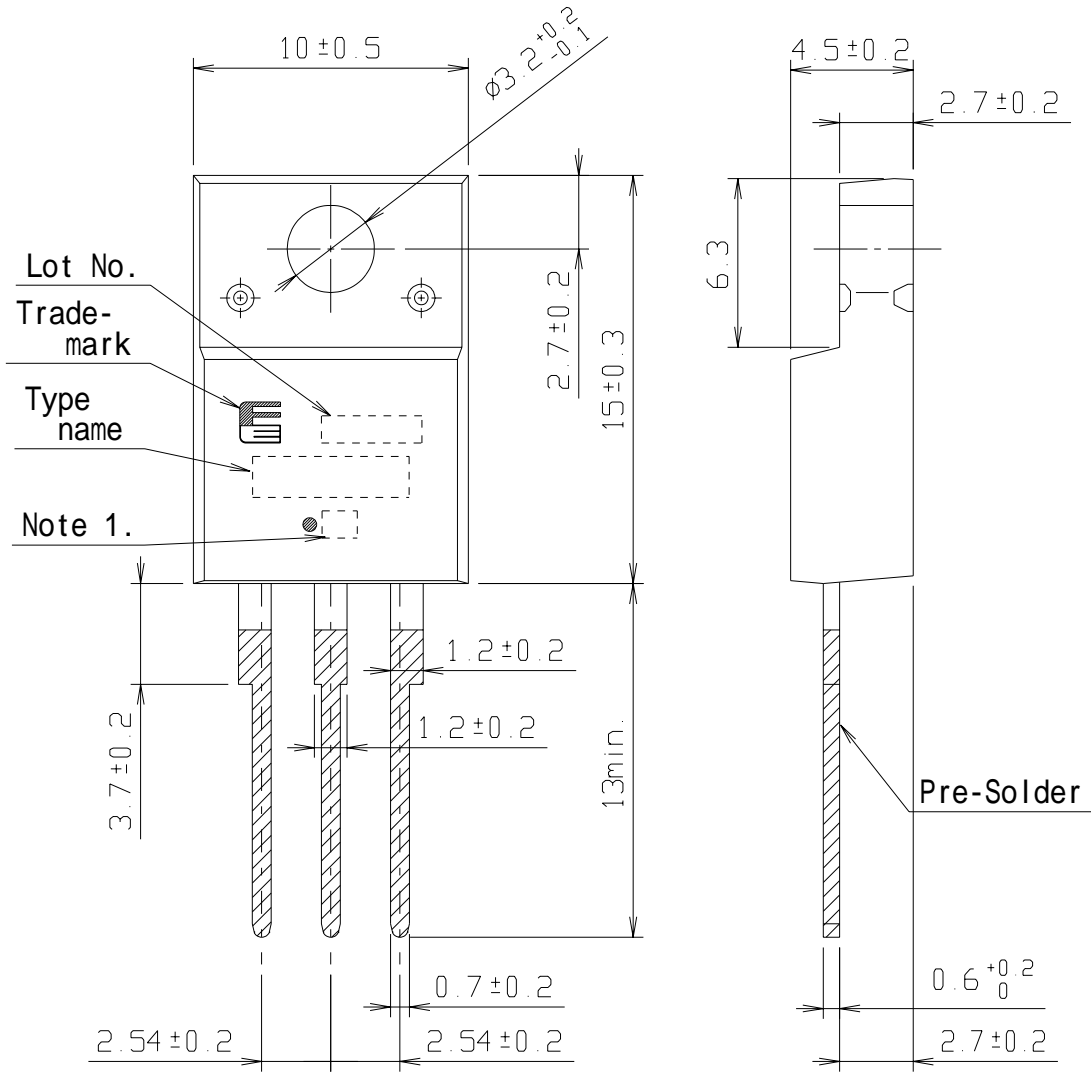
Description	Symbol	Conditions	min.	typ.	max.	Unit
Avalanche Capability	I_{AV}	$L=10mH$ $T_{ch}=25^\circ C$ $V_{cc}=50V$	5	-	-	A
Diode Forward On-Voltage	V_{SD}	$I_F=5A$ $V_{GS}=0V$ $T_{ch}=25^\circ C$	-	1.00	1.50	V
Reverse Recovery Time	t_{rr}	$I_F=5A$ $V_{GS}=0V$	-	0.7	-	μs
Reverse Recovery Charge	Q_{rr}	$-di/dt=100A/\mu s$ $T_{ch}=25^\circ C$	-	4.5	-	μC

7. Thermal Resistance

Description	Symbol	min.	typ.	max.	Unit
Channel to Case	$R_{th(ch-c)}$			6.25	$^\circ C/W$
Channel to Ambient	$R_{th(ch-a)}$			58.0	$^\circ C/W$

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FUJI POWER MOS FET



CONNECTION

- ① GATE
- ② DRAIN
- ③ SOURCE

Note 1. Guaranteed mark of avalanche reggedness.

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