2SK3527-01

1.Scope This specifies Fuji Power MOSFET 2SK3527-01

2.Construction N-Channel enhancement mode power MOSFET

3.Applications for Switching

4.Outview TO-247

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

Description	Symbol	Characteristics	Unit	Remarks
Drain-Source Voltage	V_{DS}	600	V	
Continuous Drain Current	I_D	± 17	A	
Pulsed Drain Current	I_{DP}	± 68	A	
Gate-Source Voltage	V_{GS}	± 30	V	
Maximum Avalanche Current	I_{AR}	17	A	Tch<=150°C
Maximum Avalanche Energy	E_{AV}	412	mJ	L=2.61mH Vcc=60V
Maximum Drain-Source dV/dt	dV_{DS}/dt	20	kV/μs	VDS<=600V
Peak Diode Recovery dV/dt	dV/dt	5	kV/μs	*1
Maximum Power Dissipation	P_D	2.5	W	Ta=25°C
		220		Tc=25°C
Operating and Storage Temperature range	T_{ch}	150	°C	
	T_{stg}	-55 to +150	°C	

*1 $I_F \leq -I_D$, $-di/dt=50A/\mu s$, $Vcc \leq BV_{DSS}$, $Tch \leq 150°C$

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=250μA V_{GS}=0V		600	-	-	V
Gate Threshold Voltage	$V_{GS}(th)$	I_D=250μA $V_{DS}=V_{GS}$		3.0	-	5.0	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=600V VGS=0V	T_{ch}=25°C	-	-	25	μA
		VDS=480V V_{GS}=0V	T_{ch}=125°C	-	-	250	
Gate-Source Leakage Current	I_{GSS}	V_{GS}= ±30V V_{DS}=0V		-	10	100	nA
Drain-Source On-State Resistance	$R_{DS}(on)$	I_D=8.5A V_{GS}=10V		-	0.28	0.37	Ω

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Dynamic Ratings

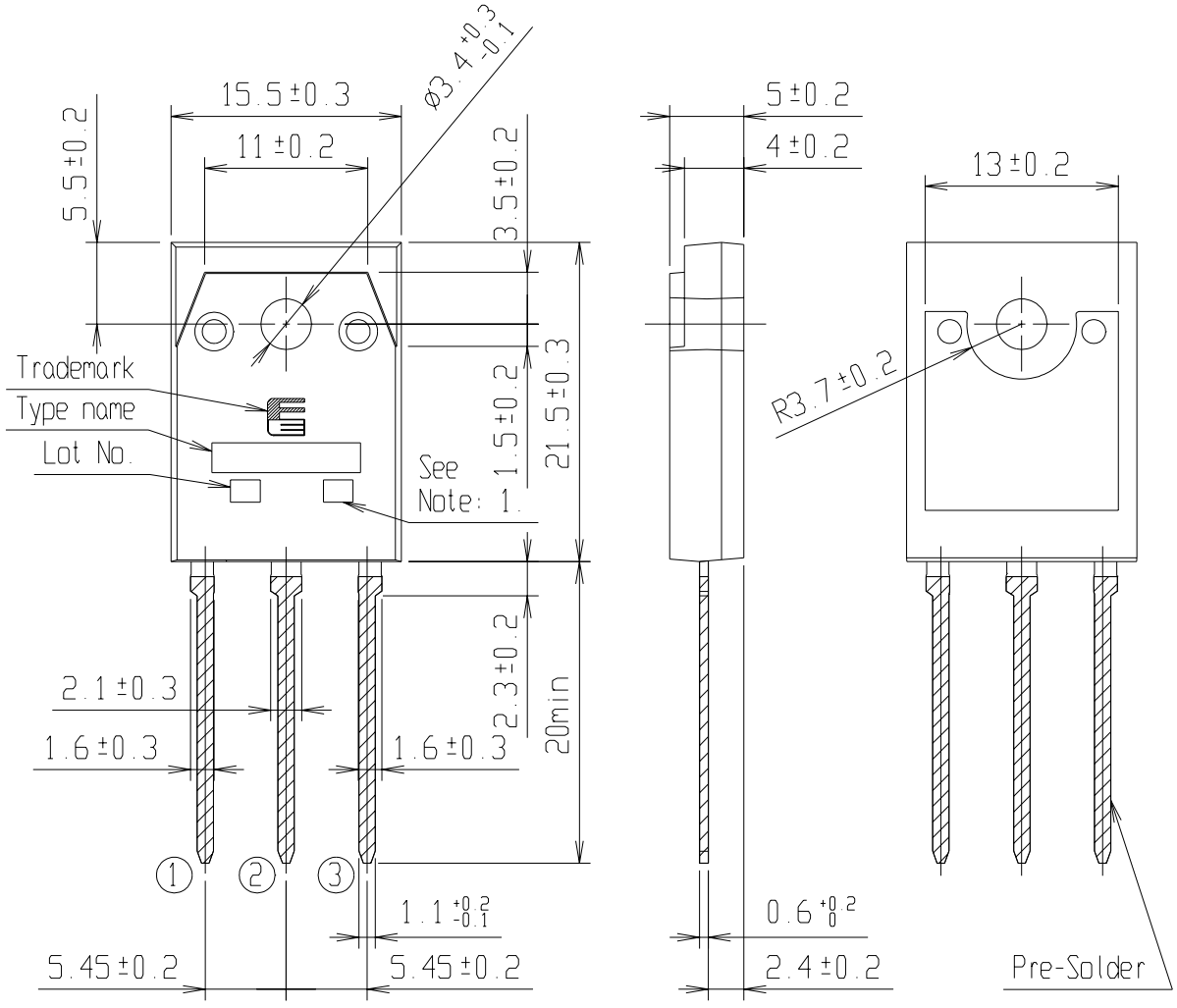
Description	Symbol	Conditions	min.	typ.	max.	Unit
Forward Transconductance	g_{fs}	I_D=8.5A, V_{DS}=25V	(11)		-	S
Input Capacitance	Ciss	V_{DS}=25V	-		(4600)	pF
Output Capacitance	Coss	V_{GS}=0V	-		(465)	
Reverse Transfer Capacitance	Crss	f=1MHz	-		(20)	
Turn-On Time	td(on)	V_{cc}=300V	-		(50)	ns
	tr	V_{GS}=10V	-		(45)	
Turn-Off Time	td(off)	I_D=8.5A	-		(90)	
	tf	R_{GS}=10Ω	-		(30)	
Total Gate Charge	Q_G	V_{cc}=300V	-		(100)	nC
Gate-Source Charge	Q_{GS}	I_D=17A	-		(40)	
Gate-Drain Charge	Q_{GD}	V_{GS}=10V	-		(35)	

Reverse Diode

Description	Symbol	Conditions	min.	typ.	max.	Unit
Avalanche Capability	I_{AV}	L=2.61mH Tch=25°C, Vcc=60V	17	-	-	A
Diode Forward On-Voltage	V_{SD}	I_F=17A, V_{GS}=0V T_{ch}=25°C	-	1.00	1.50	V
Reverse Recovery Time	trr	I_F=17A, V_{GS}=0V	-	1.32	-	μs
Reverse Recovery Charge	Qrr	-di/dt=100A/μs, T_{ch}=25°C	-	12.0	-	μC

7.Thermal Resistance

Description	Symbol	min.	typ.	max.	Unit
Channel to Case	Rth(ch-c)			0.57	°C/W
Channel to Ambient	Rth(ch-a)			50.0	°C/W



CONNECTION

① GATE
② DRAIN
③ SOURCE

JEDEC : TO-247

Note: 1. Guaranteed mark of avalanche ruggedness.

DIMENSIONS ARE IN MILLIMETERS.

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