

2SK3528-01R

- 1.Scope** This specifies Fuji Power MOSFET 2SK3528-01R
- 2.Construction** N-Channel enhancement mode power MOSFET
- 3.Applications** for Switching
- 4.Outview** TO-3PF

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 \leq 150°C
Maximum Avalanche Energy	E_{AV}	393	mJ	L=2.50mH Vcc=60V
Maximum Drain-Source dV/dt	dV_{DS}/dt	20	kV/ μ s	VDS \leq 600V
Peak Diode Recovery dV/dt	dV/dt	5	kV/ μ s	*1
Maximum Power Dissipation	P_D	3.1	W	Ta=25°C
		120		Tc=25°C
Operating and Storage	T_{ch}	150	°C	
Temperature range	T_{stg}	-55 to +150	°C	

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

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}	$I_D = 250\mu A$ $V_{GS} = 0V$	600	-	-	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}	$V_{DS} = 600V$ $V_{GS} = 0V$ Tch=25°C	-	-	25	μA
		$V_{DS} = 480V$ $V_{GS} = 0V$ Tch=125°C	-	-	250	
Gate-Source Leakage Current	I_{GSS}	$V_{GS} = \pm 30V$ $V_{DS} = 0V$	-	10	100	nA
Drain-Source On-State Resistance	$R_{DS(on)}$	$I_D = 8.5A$ $V_{GS} = 10V$	-	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	C_{iss}	$V_{DS}=25V$	-		(4600)	pF
Output Capacitance	C_{oss}	$V_{GS}=0V$	-		(465)	
Reverse Transfer Capacitance	C_{rss}	$f=1MHz$	-		(20)	
Turn-On Time	$t_{d(on)}$	$V_{cc}=300V$	-		(50)	ns
	t_r	$V_{GS}=10V$	-		(45)	
Turn-Off Time	$t_{d(off)}$	$I_D=8.5A$	-		(90)	
	t_f	$R_{GS}=10\Omega$	-		(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}	$L=2.50mH$ $T_{ch}=25^\circ C$ $V_{cc}=60V$	17	-	-	A
Diode Forward On-Voltage	V_{SD}	$I_F=17A$ $V_{GS}=0V$ $T_{ch}=25^\circ C$	-	1.00	1.50	V
Reverse Recovery Time	t_{rr}	$I_F=17A$ $V_{GS}=0V$	-	1.32	-	μs
Reverse Recovery Charge	Q_{rr}	$-di/dt=100A/\mu s$ $T_{ch}=25^\circ C$	-	12.0	-	μC

7.Thermal Resistance

Description	Symbol	min.	typ.	max.	Unit
Channel to Case	$R_{th(ch-c)}$			1.04	$^\circ C/W$
Channel to Ambient	$R_{th(ch-a)}$			40.0	$^\circ C/W$

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