



# J111 J112 J113

N-CHANNEL SILICON JUNCTION FIELD EFFECT TRANSISTORS

## MICRO ELECTRONICS

J111, J112, J113 are N-channel silicon junction field effect transistors designed for analog switching, choppers and commutators applications.

T0-92



DSG

### ABSOLUTE MAXIMUM RATINGS

Gate-Source Voltage	V <sub>GS</sub>	-35V
Gate Current	I <sub>G</sub>	50mA
Total Power Dissipation (T <sub>A</sub> =25°C)	P <sub>tot</sub>	350mW
Power Derating (to 125°C)		3.5mW/°C
Operating Junction & Storage Temperature	T <sub>j</sub> , T <sub>stg</sub>	-55 to +125°C

### ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Gate-Source Breakdown Voltage	BV <sub>GSS</sub>	-35			V	I <sub>G</sub> =-1μA V <sub>DS</sub> =0
Gate Reverse Current (note 1)	I <sub>GSS</sub>			-1	nA	V <sub>GS</sub> =-15V V <sub>DS</sub> =0
Drain Saturation Current J111	I <sub>DSS</sub> *	20			mA	V <sub>DS</sub> =15V V <sub>GS</sub> =0
J112		5			mA	V <sub>DS</sub> =15V V <sub>GS</sub> =0
J113		2			mA	V <sub>DS</sub> =15V V <sub>GS</sub> =0
Drain Cutoff Current (note 1)	I <sub>D(off)</sub>			-1	nA	V <sub>DS</sub> =5V V <sub>GS</sub> =10V
Gate-Source Pinchoff Voltage	V <sub>p</sub>				V	I <sub>D</sub> =1μA V <sub>DS</sub> =5V
J111		-3	-10		V	I <sub>D</sub> =1μA V <sub>DS</sub> =5V
J112		-1	-5		V	I <sub>D</sub> =1μA V <sub>DS</sub> =5V
J113	-0.5	-3		V	I <sub>D</sub> =1μA V <sub>DS</sub> =5V	
Drain-Source On Resistance J111	r <sub>DS(on)</sub>			30	Ω	V <sub>GS</sub> =-10V V <sub>DS</sub> ≤0.1V
J112				50	Ω	V <sub>GS</sub> =-10V V <sub>DS</sub> ≤0.1V
J113				100	Ω	V <sub>GS</sub> =-10V V <sub>DS</sub> ≤0.1V
Turn On Delay Time	t <sub>d(on)</sub>		7		ns	
Rise Time	t <sub>r</sub>		6		ns	
Turn Off Delay Time	t <sub>d(off)</sub>		20		ns	
Fall Time	t <sub>f</sub>		15		ns	

note 1 : Approximately doubles for every 10°C increase in T<sub>A</sub>.

\* Pulse Test : Pulse Width = 0.3ms, Duty Cycle = 1%

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