J108, J109

N-Channel Silicon Junction Field-Effect Transistor

- Choppers
- Commutators
- Analog Switches

Absolute maximum ratings at T_A = 25°C

Reverse Gate Source & Reverse Gate Drain Voltage	– 25 V
Continuous Forward Gate Current	50 mA
Continuous Device Power Dissipation	360 mW
Power Derating	3.27 mW/°C

At 25°C free air temperature:		J108		J109		Process NJ450		
Static Electrical Characteristics		**Min**	**Max**	**Min**	**Max**	**Unit**	**Test Conditions**	
Gate Source Breakdown Voltage	$V_{(BR)GSS}$	– 25		– 25		V	I_G = – 1 µA, V_{DS} = ØV	
Gate Reverse Current	I_{GSS}		– 3		– 3	nA	V_{GS} = – 15V, V_{DS} = ØV	
Gate Source Cutoff Voltage	$V_{GS(OFF)}$	– 3	– 10	– 2	– 6	V	V_{DS} = 5V, I_D = 1 µA	
Drain Saturation Current (Pulsed)	I_{DSS}	80		40		mA	V_{DS} = 15V, V_{GS} = ØV	
Drain Cutoff Current	$I_{D(OFF)}$		3		3	nA	V_{DS} = 5V, V_{GS} = – 10V	
Dynamic Electrical Characteristics								
Drain Source ON Resistance	$r_{ds(on)}$		8		12	Ω	V_{GS} = Ø, V_{DS} < = 0.1V	f = 1 kHz
Drain Gate Capacitance	C_{gd}		15		15	pF	V_{DS} = ØV, V_{GS} = – 10V	f = 1 MHz
Source Gate Capacitance	C_{gs}		15		15	pF	V_{DS} = ØV, V_{GS} = – 10V	f = 1 MHz
Drain Gate + Source Gate Capacitance	C_{gd} + C_{gs}		85		85	pF	V_{DS} = V_{GS} = ØV	f = 1 MHz
Switching Characteristics		**Typ**		**Typ**				
Turn ON Delay Time	$td_{(on)}$	3		3		ns		
Rise Time	t_r	1		1		ns		
Turn OFF Delay Time	$td_{(off)}$	4		4		ns		
Fall Time	t_f	18		18		ns		

	J108	J109	
V_{DD}	1.5	1.5	V
$V_{GS(OFF)}$	– 12	– 7	V
R_L	150	150	Ω

TO-226AA Package
Dimensions in Inches (mm)

Pin Configuration
1 Drain, 2 Source, 3 Gate

Surface Mount
SMPJ108, SMPJ109

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