

n-channel JFETs designed for . . .



Performance Curves NIP See Section 4

BENEFITS

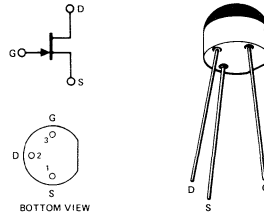
- Low Insertion Loss
 $R_{DS(on)} < 8 \Omega$ (E108)
- No Offset or Error Voltages Generated by Closed Switch
Purely Resistive
High Isolation Resistance from Driver
- Fast Switching
 $t_{d(on)} + t_r = 5$ ns Typical
- Low Noise
 $\bar{e}_n = 6$ nV/ $\sqrt{\text{Hz}}$ at 10 Hz, Typical (E110)

- Analog Switches
- Choppers
- Commutators
- Low Noise Audio Amplifiers

ABSOLUTE MAXIMUM RATINGS (25°C)

Gate-Drain or Gate-Source Voltage	.....	-25 V
Gate Current	.....	50 mA
Total Device Dissipation (25°C Free-Air Temperature)	.....	350 mW
Power Derating (to +125°C)	.....	3.5 mW/°C
Storage Temperature Range	.....	-55 to +125°C
Operating Temperature Range	.....	-55 to +125°C
Lead Temperature (1/16" from case for 10 seconds)	.....	300°C

TO-106
See Section 5



ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

Characteristic	E108			E109			E110			Unit	Test Conditions
	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max		
1 | S | I _{GSS} | Gate Reverse Current (Note 1)			-3			-3			-3	nA	V _{DS} = 0, V _{GS} = -15 V
2 | T | V _{GS(off)} | Gate-Source Cutoff Voltage	-3	-10	-2	-6	-0.5	-4				V	V _{DS} = 5 V, I _D = 1 μA
3 | A | B _{VGS} | Gate-Source Breakdown Voltage	-25		-25	-25		-25					V _{DS} = 0, I _G = -1 μA
4 | T | I _{DSS} | Saturation Drain Current (Note 2)	80		40			10				mA	V _{DS} = 15 V, V _{GS} = 0
5 | C | I _{D(off)} | Drain Cutoff Current (Note 1)			3			3			3	nA	V _{DS} = 5 V, V _{GS} = -10 V
6 | r _{DS(on)} | Drain-Source ON Resistance			8			12			18	Ω	V _{DS} ≤ 0.1 V, V _{GS} = 0
7 | C _{dg(off)} | Drain-Gate OFF Capacitance			15			15			15	pF	V _{DS} = 0, V _{GS} = -10 V f = 1 MHz
8 | C _{sg(off)} | Source-Gate OFF Capacitance			15			15			15	pF	
9 | D | C _{dg(on)} + C _{sg(on)} | Drain-Gate Plus Source-Gate ON Capacitance			85			85			85	pF		V_{DS} = V_{GS} = 0
10 t _{d(on)} | Turn On Delay Time		4			4			4		ns	Switching Time Test Conditions E108 1.5 V 1.5 V 1.5 V E109 1.5 V 1.5 V 1.5 V E110 1.5 V 1.5 V 1.5 V V _{DD} 1.5 V 1.5 V 1.5 V V _{GS(off)} -12 V -7 V -5 V R _L 150 Ω 150 Ω 150 Ω
11 | t _r | Rise Time		1			1			1		ns	
12 | t _{d(off)} | Turn Off Delay Time		6			6			6		ns	
13 | t _f | Fall Time		30			30			30		ns	

NOTES:

1. Approximately doubles for every 10°C increase in T_A.
2. Pulse test duration = 300 μs; duty cycle ≤ 3%.

NIP

E108 E109 E110

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