n-channel JFETs *designed for . . .*

- **Analog Switches**
- **Commutators**
- **Choppers**
- **Integrator Reset Switch**

Siliconix

Performance Curves NCB
See Section 4

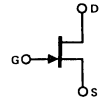
BENEFITS

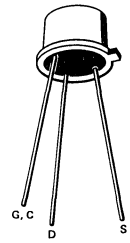
- Low Insertion Loss, High Accuracy in Test Systems r_{ON}
- No Offset or Error Voltages Generated by Closed Switch
  - Purely Resistive
  - High Isolation Resistance from Driver
- High Off-Isolation $I_{D(off)} < 100$ pA
- High Speed $t_{ON} < 20$ ns

*ABSOLUTE MAXIMUM RATINGS (25°C)

Reverse Gate-Drain or Gate-Source Voltage . . . . . –40 V
Gate Current . . . . . 50 mA
Total Device Dissipation at 25°C Case Temperature
(Derate 10 mW/°C) . . . . . 1.8 W
Storage Temperature Range . . . . . –65 to +200°C
Lead Temperature
(1/16" from case for 60 seconds) . . . . . .300°C

TO-18
See Section 6



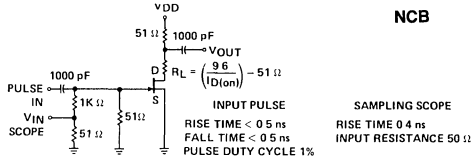


*ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

		Characteristic		FN4392 Min	FN4392 Max	FN4393 Min	FN4393 Max	Unit	Test Conditions		
1	STATIC	I_{GSS}	Gate Reverse Current		-100		-100	pA	V_{GS} = -20 V, V_{DS} = 0		
2					-200		-200	nA			150°C
3		BV_{GSS}	Gate-Source Breakdown Voltage	-40		-40		V	I_G = -1 μA, V_{DS} = 0		
4		$I_{D(off)}$	Drain Cutoff Current				100	pA	V_{DS} = 20 V	V_{GS} = -5 V	
5							200	nA			
6					100			pA			150°C
7					200			nA			
8		$V_{GS(f)}$	Gate-Source Forward Voltage		1		1	V	I_G = 1 mA, V_{DS} = 0		
9		$V_{GS(off)}$	Gate-Source Cutoff Voltage	-2	-5	-0.5	-3		V_{DS} = 20 V, I_D = 1 nA		
10		I_{DSS}	Saturation Drain Current (Note 1)	25	100	5	60	mA	V_{DS} = 20 V, V_{GS} = 0		
11		$V_{DS(on)}$	Drain Source ON Voltage				0.4	V	V_{GS} = 0	I_D = 3 mA	
12					0.4					I_D = 6 mA	
13										I_D = 12 mA	
14		$r_{DS(on)}$	Static Drain-Source ON Resistance		60		100	Ω	V_{GS} = 0, I_D = 1 mA		
15		$r_{ds(on)}$	Drain-Source ON Resistance		60		100	Ω	V_{GS} = 0, I_D = 0		f = 1 kHz
16	DYN	C_{iss}	Common-Source Input Capacitance		16		16	pF	V_{DS} = 20 V, V_{GS} = 0		f = 1 MHz
17		C_{rss}	Common-Source Reverse Transfer Capacitance				5		V_{DS} = 0	V_{GS} = - 5 V	
18					5					V_{GS} = - 7 V	
19										V_{GS} = -12 V	
20	SW	$t_{d(on)}$	Turn-ON Delay Time		15		15	ns	V_{DD} = 10 V, $V_{GS(on)}$ = 0		
21		t_r	Rise Time		5		5			$I_{D(on)}$	$V_{GS(off)}$	R_L
22		$t_{d(off)}$	Turn-OFF Delay Time		35		50		FN4392	6	-7	1.6KΩ
23		t_f	Fall Time		20		30		FN4393	3	-5	3.2KΩ

NOTE:
1 Pulse test required, pulse width = 300 μs, duty cycle ≤ 3%

NCB



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