

n-channel JFETs designed for . . .

- Low Noise Amplifiers
- Choppers
- Switches

Performance Curves NFA
See Section 4

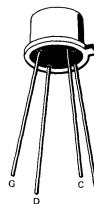
BENEFITS

- Operates from High Supply Voltages
 $V_{GSS} > 50 \text{ V}$

*ABSOLUTE MAXIMUM RATINGS (25°C)

Gate-Drain or Gate-Source Voltage (Note 2) -50 V
Gate Current or Drain Current 50 mA
Total Device Dissipation
(Derate 2 mW/°C to 175°C) 350 mW
Storage Temperature Range -65 to +200°C

TO-72
See Section 5



*ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

Characteristic			2N3684		2N3685		2N3686		2N3687		Unit	Test Conditions		
			Min	Max	Min	Max	Min	Max	Min	Max				
1	S T A T I C	IGSS Gate Reverse Current		-0.1		-0.1		-0.1		-0.1	nA	VGS = -30 V, VDS = 0	150°C	
2				-0.5		-0.5		-0.5		-0.5	μA			
3		BVGSS Gate-Source Breakdown Voltage	-50		-50		-50		-50	V	IG = -1 μA, VDS = 0			
4		VGS(off) Gate-Source Cutoff Voltage	-2	-5	-1	-3.5	-0.6	-2	-0.3		-1.2	VDS = 20 V, ID = 1 nA		
5		IDSS Saturation Drain Current	2.5	7.5	1	3	0.4	1.2	0.1	0.5	mA	VDS = 20 V, VGS = 0		
6		rDS(on) Drain-Source ON Resistance (Note 1)		600		800		1200		2400	ohm	VDS = 0 V, VGS = 0		
7	D Y N A M I C	gfs Common-Source Forward Transconductance	2000	3000	1500	2500	1000	2000	500	1500	μmho	VDS = 20 V, VGS = 0	f = 1 kHz	
8		gos Common-Source Output Conductance		50		25		10		5				
9		Crss Common-Source Reverse Transfer Capacitance		1.2		1.2		1.2		1.2	pF			
10		Ciss Common-Source Input Capacitance		4		4		4		4				
11		ēn Equivalent Short Circuit Input Spot Noise Voltage		0.15		0.15		0.15		0.15	μV √Hz	VDS = 10 V, VGS = 0		f = 20 Hz
12		NF Noise Figure		0.5		0.5		0.5		0.5	dB	VDS = 10 V, VGS = 0 Rgen = 10 meg, BW = 6 Hz		f = 100 Hz

*JEDEC registered data

NFA

NOTES:

1. Not JEDEC registered data
2. Due to symmetrical geometry, these units may be operated with source and drain leads interchanged.

2N3684 2N3685 2N3686 2N3687

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