INTERSIL

2N4338-2N4341
N-Channel JFET

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FEATURES

- Exceptionally high figure of merit
- Radiation Immunity
- Symmetrical devices for low-level choppers, data switches, multiplexers and low noise amplifiers
- Extremely low noise and capacitance
- High input impedance
- Zero offset
- High reliability silicon epitaxial planar construction

ABSOLUTE MAXIMUM RATINGS

@ 25°C (unless otherwise noted)

Maximum Temperatures

Storage Temperature	−65°C to +200°C
Operating Junction Temperature	+200°C
Lead Temperature (Soldering, 10 sec time limit)	+260°C

Maximum Power Dissipation

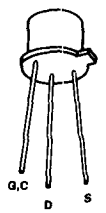
Device Dissipation @ Free Air Temperature	300 mW
Linear Derating	1.7 mW/°C

Maximum Voltages & Current

V_{GS}	Gate to Source Voltage	−50 V
V_{GD}	Gate to Drain Voltage	−50 V
I_G	Gate Current	50 mA

PIN CONFIGURATION

TO-18



CHIP TOPOGRAPHY

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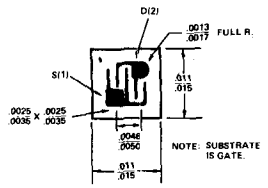

ORDERING INFORMATION

TO-18	WAFER	DICE
2N4338	2N4338/W	2N4338/D
2N4339	2N4339/W	2N4339/D
2N4340	2N4340/W	2N4340/D
2N4341	2N4341/W	2N4341/D

ELECTRICAL CHARACTERISTICS (25°C unless otherwise specified)

PARAMETER		2N4338		2N4339		2N4340		2N4341		UNITS	TEST CONDITIONS	
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX			
I_{GSS}	Gate Reverse Current		−0.1		−0.1		−0.1		−0.1	nA	V_{GS} = −30 V, V_{DS} = 0	
			−0.1		−0.1		−0.1		−0.1	μA		150°C
BV_{GSS}	Gate-Source Breakdown Voltage	−50		−50		−50		−50		V	I_G = −1 μA, V_{DS} = 0	
$V_{GS(off)}$	Gate-Source Cutoff Voltage	−0.3	−1	−0.6	−1.8	−1	−3	−2	−6		V_{DS} = 15 V, I_D = 0.1 μA	
$I_{D(off)}$	Drain Cutoff Current		0.05 (−5)		0.05 (−5)		0.05 (−5)		0.07 (−10)	nA (V)	V_{DS} = 15 V, V_{GS} = ( )	
I_{DSS}	Saturation Drain Current	0.2	0.6	0.5	1.5	1.2	3.6	3	9	mA	V_{DS} = 15 V, V_{GS} = 0	
g_{fs}	Common-Source Forward Transconductance	600	1800	800	2400	1300	3000	2000	4000	μmho	V_{DS} = 15 V, V_{GS} = 0	f = 1 kHz
g_{os}	Common-Source Output Conductance		5		15		30		60			
r_{ds}	Drain-Source ON Resistance		2500		1700		1500		800	ohm	V_{DS} = 0, V_{GS} = 0	
C_{iss}	Common-Source Input Capacitance		7		7		7		7	pF	V_{DS} = 15 V, V_{GS} = 0	f = 1 MHz
C_{rss}	Common-Source Reverse Transfer Capacitance		3		3		3		3			
NF	Noise Figure		1		1		1		1	dB	V_{DS} = 15 V, V_{GS} = 0, R_{gen} = 1 meg, BW = 200 Hz	f = 1 kHz