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N-Channel JFET Low-Frequency Low-Noise Amplifier

J58

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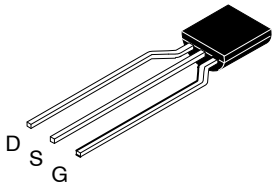
Features

- This Device is Designed for Low Level Analog Switching, Sample and Hold Circuits and Chopper Stabilized Amplifiers
- Source & Drain are Interchangeable
- This is a Pb−Free Device



TO−92 3 4.83x4.76 LEADFORMED
CASE 135AR

MAXIMUM RATINGS (T_A = 25°C, unless otherwise noted.) (Notes 1, 2)

Symbol	Rating	Value	Unit
V_{DG}	Drain−Gate Voltage	40	V
V_{GS}	Gate−Source Voltage	−40	V
I_{GF}	Forward Gate Current	50	mA
T_J, T_{STG}	Operating and Storage Junction Temperature Range	−55 to 150	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

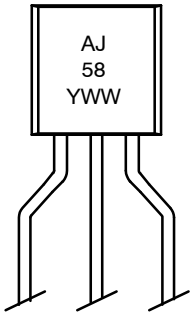
1. These ratings are based on a maximum junction temperature of 150°C.
2. These are steady−state limits. ON Semiconductor should be consulted on applications involving pulsed or low−duty−cycle operations.

THERMAL CHARACTERISTICS (T_A = 25°C, unless otherwise noted.) (Note 3)

Symbol	Rating	Value	Unit
P_D	Total Device Dissipation	625	mW
	Derate Above 25°C	5.0	mW/°C
$R_{\theta JC}$	Thermal Resistance, Junction−to−Case	125	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction−to−Ambient	200	°C/W

3. PCB size: FR−4, 76 mm x 114 mm x 1.57 mm (3.0 inch x 4.5 inch x 0.062 inch) with minimum land pattern size.

MARKING DIAGRAM



J58 = Specific Device Code
A = Assembly Plant Code
Y = Year
WW = Work Week

ORDERING INFORMATION

Part Number	Top Mark	Package	Shipping†
J58	J58	TO−92 3L (Pb−Free)	2000 / Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

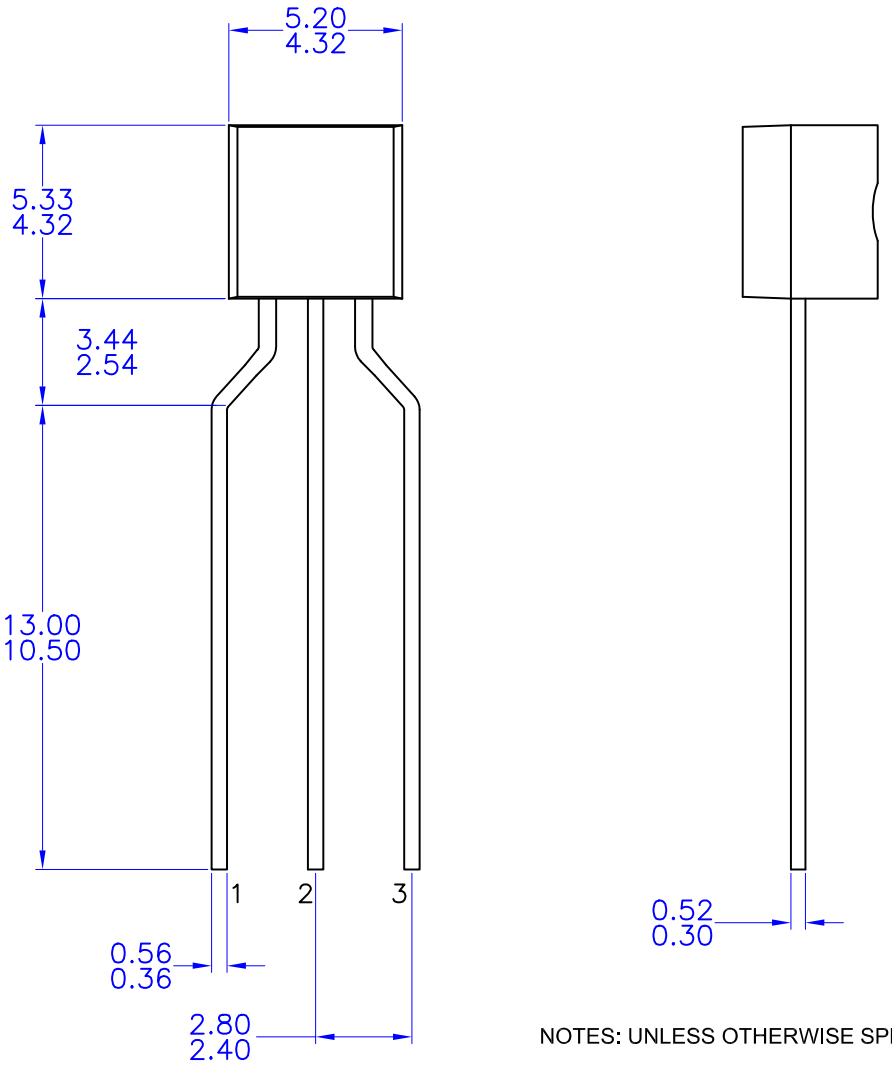
Symbol	Parameter	Test Condition	Min	Max	Unit
OFF CHARACTERISTICS					
$V_{(BR)GSS}$	Gate−Source Breakdown Voltage	I_G = −1.0 μA, V_{DS} = 0	−40	–	V
I_{GSS}	Gate Reverse Current	V_{GS} = −20 V, V_{DS} = 0	–	−1.0	nA
V_{GS}(off)	Gate−Source Cut−Off Voltage	V_{DS} = 15 V, I_D = 1.0 mA	−2.5	−3.5	V
ON CHARACTERISTICS					
I_{DSS}	Zero−Gate Voltage Drain Current (Note 4)	V_{DS} = 15 V, V_{GS} = 0	8	80	mA
r_{DS}(on)	Drain−Source On Resistance	$V_{DS} \leq$ 0.1 V, V_{GS} = 0	–	60	Ω

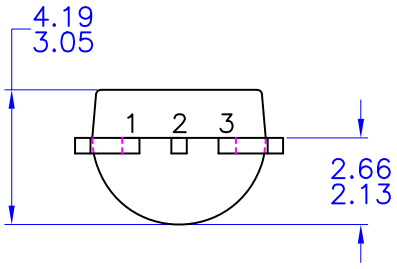
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

4. Pulse test: pulse width ≤ 300 μs, duty cycle ≤ 2%.

PACKAGE DIMENSIONS

TO−92 3 4.83x4.76 LEADFORMED
CASE 135AR
ISSUE O





NOTES: UNLESS OTHERWISE SPECIFIED

A) DRAWING WITH REFERENCE TO JEDEC TO-92 RECOMMENDATIONS.
B) ALL DIMENSIONS ARE IN MILLIMETERS.
C) DRAWING CONFORMS TO ASME Y14.5M-1994

PUBLICATION ORDERING INFORMATION

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