

TYPE 2N5248 N-CHANNEL SILICON JUNCTION FIELD-EFFECT TRANSISTOR

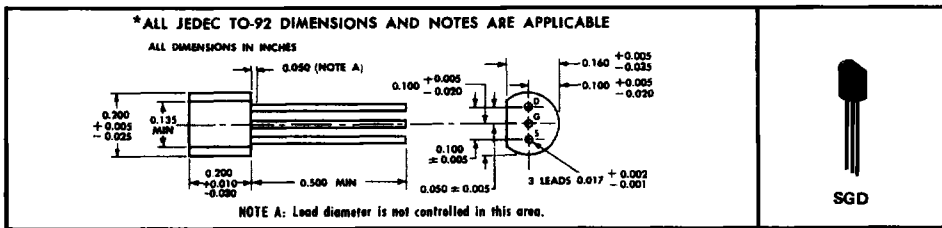
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SILECT† FIELD-EFFECT TRANSISTOR‡ FOR VHF AMPLIFIER AND MIXER APPLICATIONS

- Low C_{rss} : ≤ 2 pF
- High y_{fs}/C_{iss} Ratio (High-Frequency Figure-of-Merit)
- Formerly TIS34

mechanical data

This transistor is encapsulated in a plastic compound specifically designed for this purpose, using a highly mechanized process developed by Texas Instruments. The case will withstand soldering temperatures without deformation. This device exhibits stable characteristics under high-humidity conditions and is capable of meeting MIL-STD-202C, Method 106B. The transistor is insensitive to light.



*absolute maximum ratings at 25°C free-air temperature (unless otherwise noted)

Drain-Gate Voltage	30 V
Reverse Gate-Source Voltage	-30 V
Continuous Forward Gate Current	10 mA
Continuous Device Dissipation at (or below) 25°C Free-Air Temperature (See Note 1)	360 mW
Storage Temperature Range	-65°C to 150°C
Lead Temperature $\frac{1}{8}$ Inch from Case for 10 Seconds	260°C

*electrical characteristics at 25°C free-air temperature (unless otherwise noted)

PARAMETER	TEST CONDITIONS	MIN	MAX	UNIT
$V_{(BR)GSS}$ Gate-Source Breakdown Voltage	$I_G = -1 \mu A, V_{DS} = 0$	-30		V
I_{GSS} Gate Cutoff Current	$V_{GS} = -20 V, V_{DS} = 0$		-5	nA
	$V_{GS} = -20 V, V_{DS} = 0, T_A = 100^\circ C$		-1.5	μA
$V_{GS(off)}$ Gate-Source Cutoff Voltage	$V_{DS} = 15 V, I_D = 10 nA$	-1	-8	V
V_{GS} Gate-Source Voltage	$V_{DS} = 15 V, I_D = 400 \mu A$	-1	-7.5	V
I_{DSS} Zero-Gate-Voltage Drain Current	$V_{DS} = 15 V, V_{GS} = 0, \text{ See Note 2}$	4	20	mA
$ y_{fs} $ Small-Signal Common-Source Forward Transfer Admittance	$V_{DS} = 15 V, V_{GS} = 0, f = 1 \text{ kHz}$	3.5	6.5	mmho
$ y_{os} $ Small-Signal Common-Source Output Admittance	$V_{DS} = 15 V, V_{GS} = 0, f = 1 \text{ kHz}$		50	μmho
C_{iss} Common-Source Short-Circuit Input Capacitance	$V_{DS} = 15 V, V_{GS} = 0, f = 1 \text{ MHz}$		6	pF
C_{rss} Common-Source Short-Circuit Reverse Transfer Capacitance			2	pF
$Re(y_{is})$ Small-Signal Common-Source Input Conductance	$V_{DS} = 15 V, V_{GS} = 0, f = 200 \text{ MHz}$		0.8	mmho
$Re(y_{fs})$ Small-Signal Common-Source Forward Transfer Conductance			3	mmho
$Re(y_{os})$ Small-Signal Common-Source Output Conductance			0.2	mmho

NOTES: 1. Derate linearly to 150°C free-air temperature at the rate of 2.88 mW/°C.
 2. These parameters must be measured using pulse techniques. $t_w = 100$ ms, duty cycle $\leq 10\%$.

* Indicates JEDEC registered data
 † Trademark of Texas Instruments
 ‡ U.S. Patent No. 3,439,238

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