

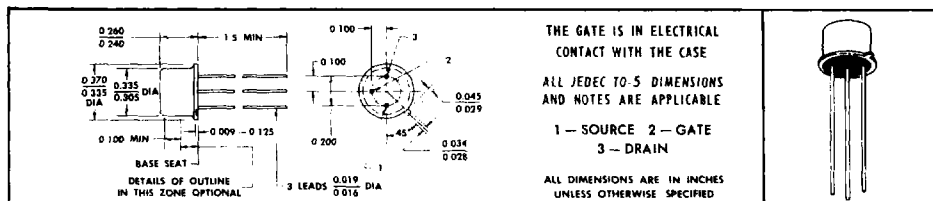
TYPES 2N2497 THRU 2N2500 P-CHANNEL SILICON JUNCTION FIELD-EFFECT TRANSISTORS

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FOR SMALL-SIGNAL, LOW-NOISE APPLICATIONS

- Guaranteed 10 cps Noise Figure (2N2500)
- High Input Impedance (>5 megohms at 1 kc)

***mechanical data**



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

Continuous Forward Gate Current	-10 ma
Total Device Dissipation at (or below) 25°C Free-Air Temperature (See Note 1)	0.5 w
Total Device Dissipation at (or below) 25°C Case Temperature (See Note 2)	1.5 w
Storage Temperature Range	-195°C to +200°C

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

PARAMETER	TEST CONDITIONS	2N2497		2N2498		2N2499		2N2500		UNIT
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	
$V_{(BR)DGO}$ Drain-Gate Breakdown Voltage (See Note 3)	$I_D = -10 \mu a, I_S = 0$	-20		-20		-20		-20		v
I_{GSS} Gate Cutoff Current	$V_{GS} = 10 v, V_{DS} = 0$		0.01		0.01		0.01		0.01	μa
I_{GSS} Gate Cutoff Current	$V_{GS} = 10 v, V_{DS} = 0, T_A = 150^\circ C$		10		10		10		10	μa
I_{DSS} Zero-Gate-Voltage Drain Current	$V_{DS} = -10 v, V_{GS} = 0$	-1	-3	-2	-6	-5	-15	-1	-6	ma
$I_{D(off)}$ Pinch-Off Drain Current	$V_{DS} = -15 v, V_{GS}$ See Note 4		-10		-10		-10		-10	μa
r_{DS} Static Drain-Source Resistance	$I_D = -100 \mu a, V_{GS} = 0$		1000		800		600			ohm
$ y_{fs} $ Small-Signal Common-Source Input Admittance			0.2		0.2		0.2		0.2	μmho
$ y_{fs} $ Small-Signal Common-Source Forward Transfer Admittance	$V_{DS} = -10 v, I_D$ See Note 5	1000	2000	1500	3000	2000	4000	1000	2200	μmho
$ y_{rs} $ Small-Signal Common-Source Reverse Transfer Admittance	$f = 1 kc$		0.1		0.1		0.1		0.1	μmho
$ y_{os} $ Small-Signal Common-Source Output Admittance			20		40		100		20	μmho
$ y_{fs} $ Small-Signal Common-Source Forward Transfer Admittance	$V_{DS} = -10 v, I_D$ See Note 5 $f = 10 mc$	900		1350		1800		900		μmho
C_{iss} Common-Source Short-Circuit Input Capacitance	$V_{GS} = 0, V_{DS} = -10 v$ $f = 140 kc$		32		32		32		32	pf

***operating characteristics at 25°C free-air temperature**

NF	Spot Noise Figure	$V_{DS} = -5 v, I_D = -1 ma, f = 1 kc, R_G = 1 M\Omega$	$V_{DS} = -5 v, I_D = -1 ma, f = 10 cps, R_G = 10 M\Omega$
			3
			5

- NOTES: 1. Derate linearly to 175°C free-air temperature at the rate of 3.3 mw/°C.
 2. Derate linearly to 175°C case temperature at the rate of 10 mw/°C.
 3. This parameter corresponds closely to $V_{(BR)DSS}$ (the Drain-Source Breakdown Voltage for $V_{GS} = 0$). $V_{(BR)DSV}$ (the Drain-Source Breakdown Voltage for other values of V_{GS}) may be calculated from:
 $|V_{(BR)DSV}| \approx |V_{(BR)DGO}| - |V_{GS}|$

	2N2497	2N2498	2N2499	2N2500
NOTE 4: $V_{GS} =$	5 v	6 v	8 v	6 v
NOTE 5: $I_D =$	-1 ma	-2 ma	-5 ma	-1 ma

*Indicates JEDEC registered data.

USES CHIP JP71