TYPE 2N3819
N-CHANNEL SILICON JUNCTION FIELD-EFFECT TRANSISTOR

BULLETIN NO. DL-S 688047, AUGUST 1965—REVISED MAY 1968

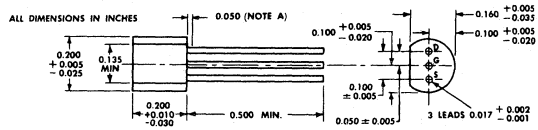
SILECT† FIELD-EFFECT TRANSISTOR‡

- For Industrial and Consumer Small-Signal Applications
- Low C_{rss}: ⩽4 pf • High y_{fs}/C_{iss} Ratio (High-Frequency Figure of Merit)
- Cross Modulation Minimized by Square-Law Transfer Characteristics
- For New Designs, 2N5949 thru 2N5953 and A5T3821 thru A5T3824 Are Recommended

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. The device exhibits stable characteristics under high-humidity conditions and is capable of meeting MIL-STD-202C, Method 106B. The transistor is insensitive to light.

*ALL JEDEC TO-92 DIMENSIONS AND NOTES ARE APPLICABLE



SGD

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

Drain-Gate Voltage	25 v
Drain-Source Voltage	25 v
Reverse Gate-Source Voltage	−25 v
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 1/16 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	$I_G = -1\ \mu a$, $V_{DS} = 0$	−25		v
I_{GSS}	Gate Cutoff Current	$V_{GS} = -15$ v, $V_{DS} = 0$		−2	na
		$V_{GS} = -15$ v, $V_{DS} = 0$, $T_A = 100°C$		−2	μa
I_{DSS}	Zero-Gate-Voltage Drain Current	$V_{DS} = 15$ v, $V_{GS} = 0$, See Note 2	2	20	ma
V_{GS}	Gate-Source Voltage	$V_{DS} = 15$ v, $I_D = 200\ \mu a$	−0.5	−7.5	v
$V_{GS(off)}$	Gate-Source Cutoff Voltage	$V_{DS} = 15$ v, $I_D = 2$ na		−8	v
$\lvert y_{fs}\rvert$	Small-Signal Common-Source Forward Transfer Admittance	$V_{DS} = 15$ v, $V_{GS} = 0$, f = 1 kc, See Note 2	2000	6500	μmho
$\lvert y_{os}\rvert$	Small-Signal Common-Source Output Admittance	$V_{DS} = 15$ v, $V_{GS} = 0$, f = 1 kc, See Note 2		50	μmho
C_{iss}	Common-Source Short-Circuit Input Capacitance	$V_{DS} = 15$ v, $V_{GS} = 0$, f = 1 Mc		8	pf
C_{rss}	Common-Source Short-Circuit Reverse Transfer Capacitance			4	pf
$\lvert y_{fs}\rvert$	Small-Signal Common-Source Forward Transfer Admittance	$V_{DS} = 15$ v, $V_{GS} = 0$, f = 100 Mc	1600		μmho

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

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

USES CHIP JN51