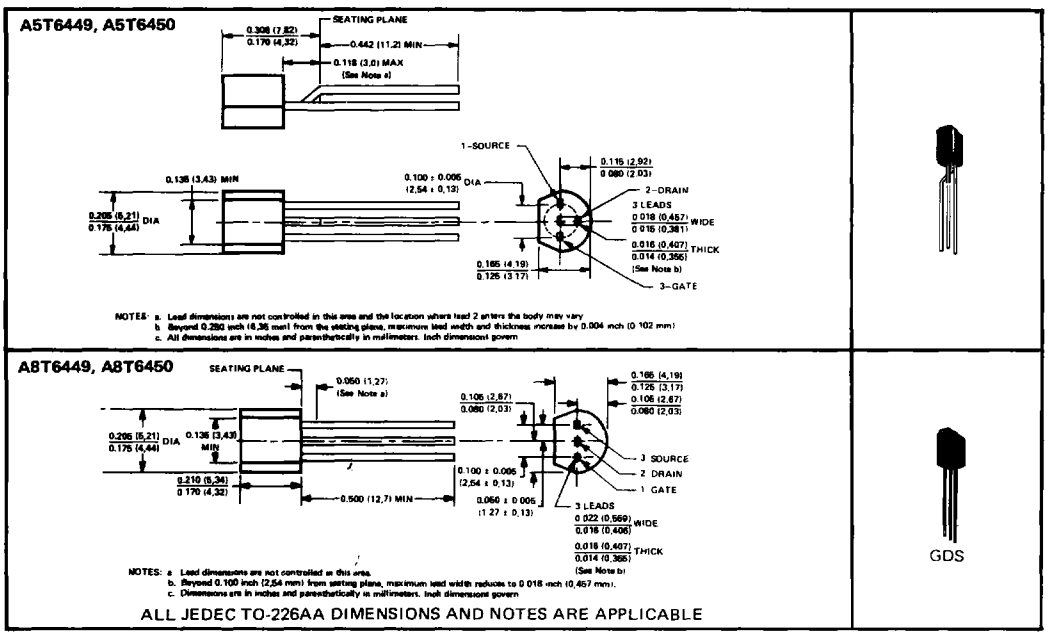
TYPES A5T6449, A5T6450, A8T6449, A8T6450
N-CHANNEL SILICON JUNCTION FIELD-EFFECT TRANSISTORS

BULLETIN NO. DL-S 12010, MAY 1973—REVISED OCTOBER 1978

SILECT† HIGH-VOLTAGE FIELD-EFFECT TRANSISTORS

- High $V_{(BR)GSS}$ . . . 300 V Min (A5T6449, A8T6449)
- High Dissipation Capability . . . 1.6 W at 25°C Case Temperature

mechanical data



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

	A5T6449 A8T6449	A5T6450 A8T6450
Drain-Gate Voltage	300 V	200 V
Reverse Gate-Source Voltage	−300 V	−200 V
Continuous Forward Gate Current	10 mA	
Continuous Device Dissipation at (or below) 25°C Free-Air Temperature (See Note 1)	625 mW	
Continuous Device Dissipation at (or below) 25°C Lead Temperature (See Note 2)	1.25 W	
Continuous Device Dissipation at (or below) 25°C Case-and-Lead Temperature (See Note 3)	1.6 W	
Storage Temperature Range	−65°C to 150°C	
Lead Temperature 1/16 Inch (1,6 mm) from Case for 10 Seconds	260°C	

NOTES: 1. Derate linearly to 150°C free-air temperature at the rate of 5 mW/°C.
2. Derate linearly to 150°C lead temperature at the rate of 10 mW/°C. Lead temperature is measured on the collector lead 1/16 inch from the case.
3. This rating applies with the entire case (including the leads) maintained at 25°C. Derate linearly to 150°C case-and-lead temperature at the rate of 12.8 mW/°C.

†Trademark of Texas Instruments
‡U.S. Patent No. 3,439,238

USES CHIP **JN54**

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

PARAMETER		TEST CONDITIONS	A5T6449 A8T6449 MIN	A5T6449 A8T6449 MAX	A5T6450 A8T6450 MIN	A5T6450 A8T6450 MAX	UNIT
$V_{(BR)GSS}$	Gate-Source Breakdown Voltage	$I_G = -10\ \mu A$, $V_{DS} = 0$	−300		−200		V
I_{GSS}	Gate Reverse Current	$V_{GS} = -150$ V, $V_{DS} = 0$		−100			nA
		$V_{GS} = -100$ V, $V_{DS} = 0$				−100	
		$V_{GS} = -150$ V, $V_{DS} = 0$, $T_A = 100°C$		−10			μA
		$V_{GS} = -100$ V, $V_{DS} = 0$, $T_A = 100°C$				−10	
$V_{GS(off)}$	Gate-Source Cutoff Voltage	$V_{DS} = 30$ V, $I_D = 4$ nA	−2	−15	−2	−15	V
I_{DSS}	Zero-Gate-Voltage Drain Current	$V_{DS} = 30$ V, $V_{GS} = 0$, See Note 4	2	10	2	10	mA
$\lvert y_{fs} \rvert$	*Small-Signal Common-Source* Forward Transfer Admittance	$V_{DS} = 30$ V, $V_{GS} = 0$, $f = 1$ kHz, See Note 5	0.5	3	0.5	3	mmho
$\lvert y_{os} \rvert$	Small-Signal Common-Source Output Admittance			100		100	μmho
C_{iss}	Common-Source Short-Circuit Input Capacitance	$V_{DS} = 30$ V, $V_{GS} = 0$, $f = 1$ MHz, See Note 5		20		20	pF
C_{rss}	Common-Source Short-Circuit Reverse Transfer Capacitance			2.5		2.5	pF

NOTES: 4. This parameter must be measured using pulse techniques. $t_w = 300\ \mu s$, duty cycle ≤ 2%.
5. To obtain repeatable results, these parameters must be measured with bias conditions applied for less than 5 seconds.

THERMAL INFORMATION

DISSIPATION DERATING CURVES

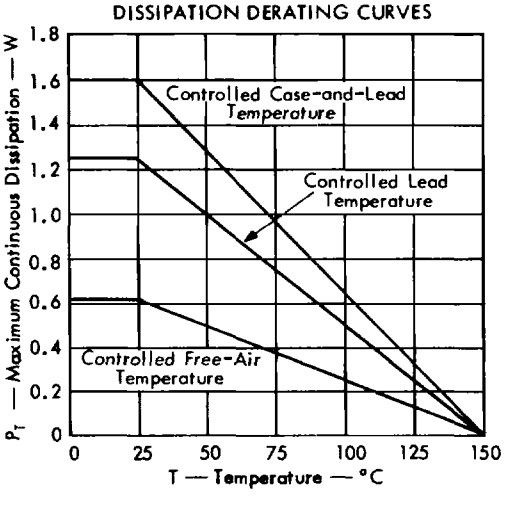


FIGURE 1

TEXAS INSTRUMENTS
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