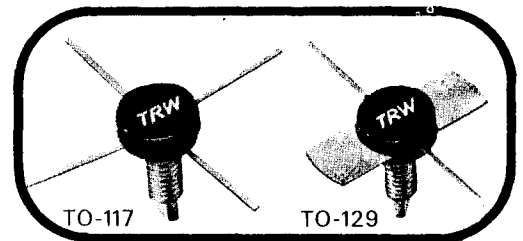


Microwave Power Transistors

2 N 4429 - 1 W
2 N 4430 - 3 W
2 N 4431 - 5 W

These are the first series of high power gigahertz transistors introduced in 1966 and in continuous production since that time.

The low cost and continuity of these products along with their long production history continues to make this family a good choice for oscillators, amplifier and multiplier below 1 GHz.



Electrical Characteristics ($T_{stud} = 25\text{ }^{\circ}\text{C}$)

				2N4431		2N4430		2N4429		
SYMBOL		CHARACTERISTICS		TEST CONDITIONS		Min.	Max.	Min.	Max.	
DC Tests	I_{CEX}	Collector Cutoff Current	$V_{CE} = 55\text{ V}$	$V_{BE} = -1.5\text{ V}$		4.0 mA		2.0 mA	1.0 mA	
	V_{CEO}	Collector to Emitter Voltage	$I_C = 50\text{ mA}$ $I_C = 20\text{ mA}$	$I_b = 0$ $I_b = 0$	40 V		40 V		35 V	
	V_{CER}	Collector to Emitter Voltage	$R = 10\text{ }\Omega$ $R = 10\text{ }\Omega$	$I_C = 50\text{ mA}$ $I_C = 20\text{ mA}$	55 V		55 V		55 V	
	V_{EBO}	Emitter to Base Voltage	$I_e = 0.50\text{ mA}$ $I_e = 0.20\text{ mA}$ $I_e = 0.10\text{ mA}$		3.5 V		3.5 V		3.5 V	
RF Tests	h_{FE}	DC Current Gain	$V_{CE} = 5\text{ V}$ $V_{CE} = 5\text{ V}$	$I_C = 100\text{ mA}$ $I_C = 50\text{ mA}$	20	200	20	200	20	200
	f_t	Gain-Bandwidth Product Measured at 200 MHz	$V_{CE} = 20\text{ V}$ $V_{CE} = 20\text{ V}$	$I_C = 100\text{ mA}$ $I_C = 50\text{ mA}$	600 MHz		600 MHz		700 MHz	
	C_{ob}	Collector to Base Capacitance	$V_{CB} = 28\text{ V}$	$f = 1.0\text{ MHz}$		10 pF		5.0 pF	3.5 pF	
	P_{out}	Power Output $V_{CE} = 28\text{ Volts}$ $n = \text{Collector}$ Efficiency $> 35\%$	$f = 1000\text{ MHz}$ $f = 1000\text{ MHz}$ $f = 1000\text{ MHz}$	$P_{in} = 1.57\text{ W}$ $P_{in} = 750\text{ mW}$ $P_{in} = 300\text{ mW}$	5.0 W		2.5 W		1.0 W	
Operating	I_C	Continuous Collector Current			2.0 A		1.0 A		425 mA	
	P_T	Total Dissipation at 25 °C Stud			18 W		10 W		5.0 W	
	θ_{JC}	Thermal Resistance (Junction to Stud)			9.7 °C/W		17.5 °C/W		35 °C/W	
	T_{sig}	Storage Temperature			- 65 to 200 °C		- 65 to 200 °C		- 65 to 200 °C	
	T_J	Junction Temperature			- 65 to 200 °C		- 65 to 200 °C		- 65 to 200 °C	

Typical Performance Characteristics

2 N 4429

