

SILICON UNIJUNCTION TRANSISTOR

2N5431

MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

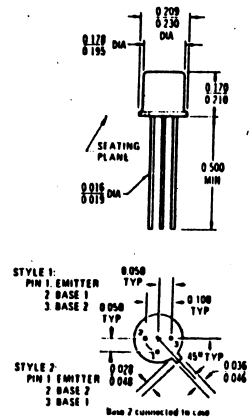
Rating	Symbol	Value	Unit
RMS Power Dissipation*	P_D	300	mW
RMS Emitter Current	I_e	50	mA
Peak-Pulse Emitter Current **	i_{e}^{**}	1.5	A
Emitter Reverse Voltage	V_{B2E}	30	V
Interbase Voltage †	V_{B2B1}	35	V
Operating Junction Temperature Range	T_J	-65 to +125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 to +200	$^\circ\text{C}$

*Derate 3.0 mW/ $^\circ\text{C}$ increase in ambient temperature.

**Duty Cycle $\leq 1.0\%$, PRR = 10 PPS

†Based upon power dissipation at $T_A = 25^\circ\text{C}$.

(TO-18)



ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Fig. No.	Symbol	Min	Max	Unit
Intrinsic Standoff Ratio ($V_{B2B1} = 10\text{ V}$)	4	η^{D}	0.72	0.80	-
Interbase Resistance ($V_{B2B1} = 3.0\text{ V}$, $I_E = 0$)		R_{BB}	6.0	8.5	k Ω
Interbase Resistance Temperature Coefficient ($V_{B2B1} = 3.0\text{ V}$, $I_E = 0$, $T_A = 0$ to 100°C)		αR_{BB}	0.4	0.8	%/ $^\circ\text{C}$
Emitter Saturation Voltage ($V_{B2B1} = 10\text{ V}$, $I_E = 50\text{ mA}$)		$V_{EB1(\text{sat})}^{\text{D}}$	-	3.0	V
Modulated Interbase Current ($V_{B2B1} = 10\text{ V}$, $I_E = 50\text{ mA}$)		$I_{B2(\text{mod})}$	5.0	30	mA
Emitter Reverse Current ($V_{B2E} = 30\text{ V}$, $I_{B1} = 0$)		I_{EB20}	-	10	nA
Peak-Point Emitter Current ($V_{B2B1} = 25\text{ V}$) ($V_{B2B1} = 4.0\text{ V}$)		I_P	-	0.4 4.0	μA
Valley-Point Current ($V_{B2B1} = 20\text{ V}$, $R_{B2} = 100\text{ ohms}$)		I_V^{D}	2.0	-	mA
Base-One Peak Pulse Voltage ($V_{BB} = 4.0\text{ volts}$)	3	V_{OB1}	1.0	-	V

