New Jersey Semi-Conductor Products, Inc.

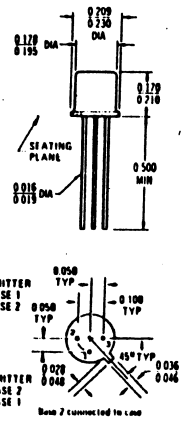
20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

TELEPHONE: (201) 376-2922
(212) 227-6005
FAX: (201) 376-8960

SILICON UNIJUNCTION TRANSISTOR

2N5431

(TO-18)



MAXIMUM RATINGS (T_A = 25°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_{B2B1O}‡	35	V
Operating Junction Temperature Range	T_J	-65 to +125	°C
Storage Temperature Range	T_{stg}	-65 to +200	°C

*Derate 3.0 mW/°C increase in ambient temperature.
**Duty Cycle ≤ 1.0%, PRR = 10 PPS
‡Based upon power dissipation at T_A = 25°C.

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Fig. No.	Symbol	Min	Max	Unit
Intrinsic Standoff Ratio (V_{B2B1} = 10 V)	4	η ①	0.72	0.80	-
Interbase Resistance (V_{B2B1} = 3.0 V, I_E = 0)		R_{BB}	6.0	8.5	kΩ
Interbase Resistance Temperature Coefficient (V_{B2B1} = 3.0 V, I_E = 0, T_A = 0 to 100°C)		αR_{BB}	0.4	0.8	%/°C
Emitter Saturation Voltage (V_{B2B1} = 10 V, I_E = 50 mA)		$V_{EB1(sat)}$ ②	-	3.0	V
Modulated Interbase Current (V_{B2B1} = 10 V, I_E = 50 mA)		$I_{B2(mod)}$	5.0	30	mA
Emitter Reverse Current (V_{B2E} = 30 V, I_{B1} = 0)		I_{EB2O}	-	10	nA
Peak-Point Emitter Current (V_{B2B1} = 25 V) (V_{B2B1} = 4.0 V)		I_P	- -	0.4 4.0	μA
Valley-Point Current (V_{B2B1} = 20 V, R_{B2} = 100 ohms)		I_V ②	2.0	-	mA
Base-One Peak Pulse Voltage (V_{BB} = 4.0 volts)	3	V_{OB1}	1.0	-	V

Quality Semi-Conductors