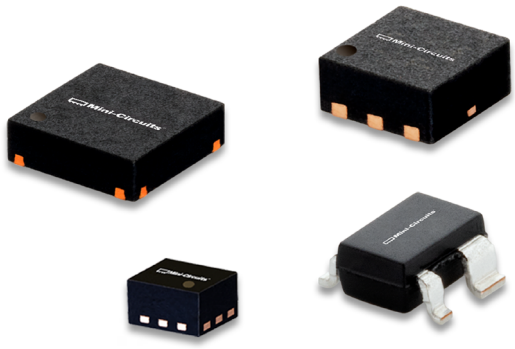
DESIGNER'S KIT K1-SAV TAV+

RF Transistors

50Ω 0.01 to 10 GHz



FEATURES

- Ultra-low noise
- High IP3
- Up to 20 dBm output power
- Variety of gains: From 16 dB to 24 dB typ.
- Variety of currents: From 15 to 60 mA
- Variety of packages: MCLP 1.42 x 1.18mm, MCLP 3 X 3 mm, SOT-343
- Low thermal resistance

MINI-CIRCUITS DESIGNER'S KITS SPEED UP THE SOLUTION

RoHS COMPLIANT

K1-SAV TAV+ ELECTRICAL SPECIFICATIONS

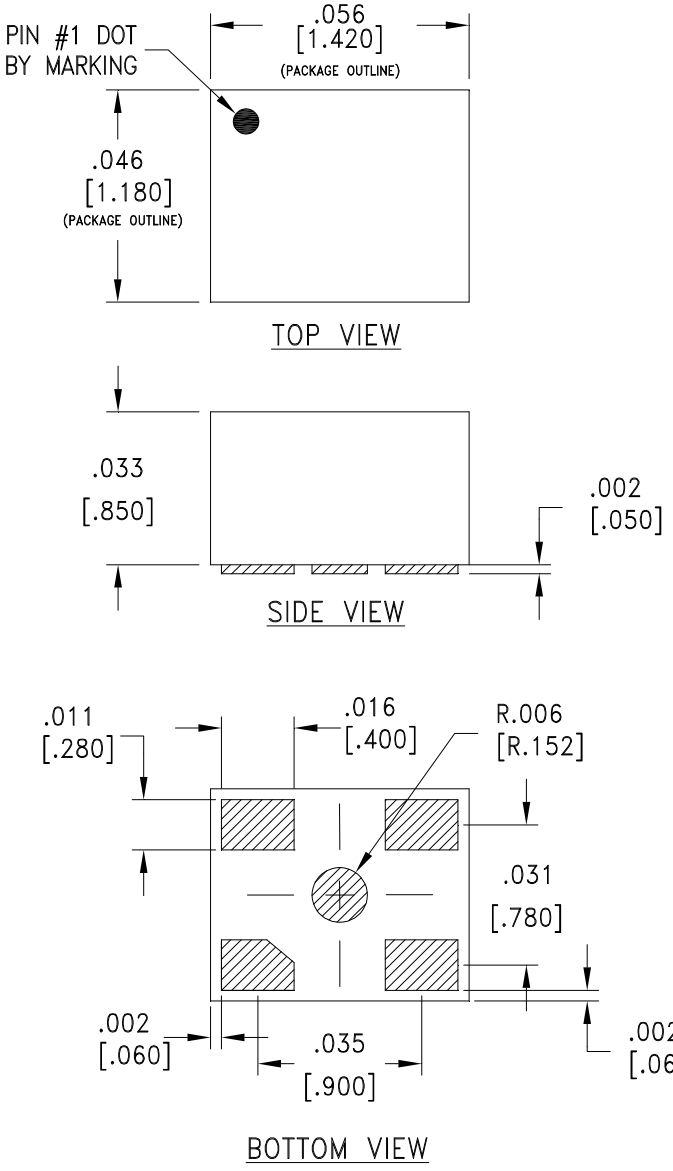
(kit includes 10 of each model, total 100 pieces)

Model	Frequency (GHz)	DC Condition	Frequency (GHz)	Gain (dB) Typ.	P1dB (dBm) Typ.	OIP3 (dBm) Typ.	NF (dB) Typ.	Thermal Resistance θjc (°C/W) Typ.	Evaluation Board
SAV-331+	0.01-4	VDS = 4V, IDS = 60 mA	0.04 0.9 2 4	24.6 21.3 16.6 11.5	19.1 20.2 21.1 21.8	30.9 33.5 35.5 38.7	0.9 0.4 0.5 0.9	109	TB-SAV-331+
SAV-541+	0.045-6	VDS = 3V, IDS = 60 mA	0.9 2 5.8	23.2 17.6 8.7	19.1 19.2 18.2	32.6 33.1 31	0.4 0.5 1.9	160	TB-SAV-541+
		VDS = 4V, IDS = 60 mA	2	17.4	21.5	35.1	0.5		
SAV-551+	0.045-6	VDS = 3V, IDS = 15 mA	0.9 2 5.8	20.9 15.9 7.6	17.2 17.5 17.5	22.4 24.3 28.5	0.5 0.6 1.8	160	TB-SAV-551+
		VDS = 4V, IDS = 15 mA	2	16	20	24.4	0.6		
SAV-581+	0.045-6	VDS = 3V, IDS = 30 mA	0.9 2 5.8	22.3 17 8.3	18.5 19 18.1	28.6 30.6 39.3	0.4 0.5 1.5	160	TB-SAV-581+
		VDS = 4V, IDS = 30 mA	2	17	20.5	30.3	0.5		
TAV-541+	0.045-6	VDS = 3V, IDS = 60 mA	0.9 2 5.8	23.8 17.9 9.5	18.9 19.1 19.6	32.1 33.6 32.9	0.4 0.5 1.8	112	TB-TAV-541+
		VDS = 4V, IDS = 60 mA	2	18	21.1	35.9	0.4		
TAV-551+	0.045-6	VDS = 3V, IDS = 15 mA	0.9 2 5.8	21.3 16.3 8.4	17 17.5 19.2	22.1 23.5 26	0.4 0.5 1.7	112	TB-TAV-551+
		VDS = 4V, IDS = 15 mA	2	16.3	20.1	24	0.4		
TAV-581+	0.045-6	VDS = 3V, IDS = 30 mA	0.9 2 5.8	22.9 17.3 8.8	17.8 18.3 19.1	28.3 30.3 34.7	0.4 0.5 1.5	112	TB-TAV-581+
		VDS = 4V, IDS = 30 mA	2	17.2	20.2	30	0.5		
TAV1-331+	0.01-4	VDS = 4V, IDS = 60 mA	0.05 0.9 2 4	24.6 21.6 17 12	19.6 20.4 21.3 21.3	31.7 32.9 34.6 37.3	0.9 0.5 0.6 1	106	TB-TAV1-331+
TAV1-541+	0.045-6	VDS = 3V, IDS = 60 mA	0.9 2 5.8	24.1 18.6 9.3	18.2 18.4 18.3	32 31.4 31.9	0.4 0.6 1.4	160	TB-TAV1-541+
		VDS = 4V, IDS = 60 mA	2	18.6	20.7	33.9	0.7		
TAV2-14LN+	0.05-10	VDS = 4V, IDS = 40 mA	0.05 8 12	23.4 13.9 10.2	17.7 19.1 19.1	27.1 31.6 33.2	2.5 0.7 1.0	170	TB-TAV2-14LN+ TB-TAV2-14LNE+
		VDS = 2V, IDS = 20 mA	0.05 8 12	22 13.3 10	13.3 13.4 13	22.8 25.9 29	0.7 0.6 0.8		

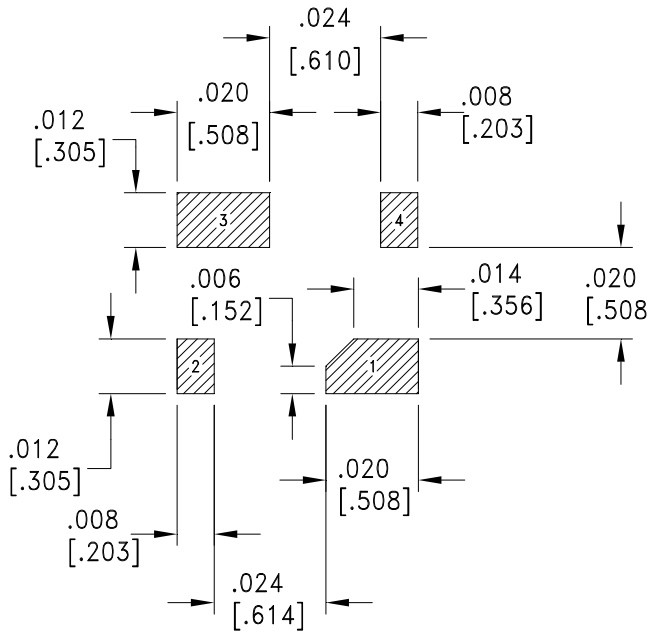
Case Style TE

Outline Dimensions

TE2769



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

Weight: .0047 grams

Dimensions are in inches (mm). Tolerances: 2 Pl. ± .01; 3 Pl. ± .005

Notes:

1. Case material: Plastic.
2. Termination finish:

   For RoHS Case Styles: Matte-Tin plate.

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Environmental Specifications ENV08T1

All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-40° to 85° C or -45° to 85° C or -55° to 105° C or -40° to 105° C or -40° to 95° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C or -65° to 150° Ambient Environment	Individual Model Data Sheet
HTOL	1000 hours at 125°C	MIL-STD-883, Method 1005, Condition B
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
Mechanical Shock	1.5Kg, 0.5 ms, 5 shock pulses, Y1 direction only	MIL-STD-883, Method 2002, Condition B, except Y1 direction only
Vibration (Variable Frequency)	50g peak	MIL-STD-883, Method 2007, Condition B
Autoclave	15 psig, 100% RH, 121°C, 96 hours	JESD22-A102, Condition C
HAST	130°C, 85% RH, 96 hours	JESD22-A110
Solderability	10X Magnification	J-STD-002, Para 4.2.5, Test S, 95% Coverage
Solder Reflow Heat	Sn-Pb Eutetic Process: 240°C peak Pb-Free Process: 260°C peak	J-STD-020, Table 4-1, 4-2 and 5-2; Figure 5-1
Moisture Sensitivity: Level 1	Bake at 125°C for 24 hours Soak at 85°C/85% RH for 168 hours, Reflow 3 cycles at 260°C peak	J-STD-020

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All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Marking Resistance to Solvents	Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C; distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C	MIL-STD-202, Method 215

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