Features

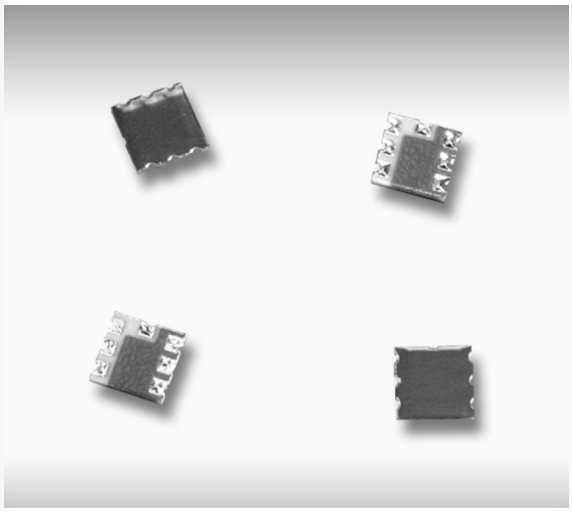
- *Single, Completely Passive Device*
- *True RMS Power Detection Independent of Modulation*
- *Wide Dynamic Range*
- *Highly Linear to RF Power Level*
- *Internal-Temperature Compensation*
- *Surface Mountable*
- *Immune to Damage from Common Levels of Static Electric Discharge and Radiation*

Advantages Over Diode Detectors

- *Reduced Component Count*
- *No Added Intermodulation*
- *Temperature Insensitivity*
- *Radiation and ESD Immunity*
- *Modulation Independent*
- *Converts RF Input Power to Linear Voltage Output*

Applications

- *Amplifiers*
- *Broadcast Transmitters*
- *Built-in Test Equipment (BITE)*
- *LO Monitor*
- *Telecom Base Stations*
- *Radar Systems*
- *Satcom*
- *VSWR Meters*

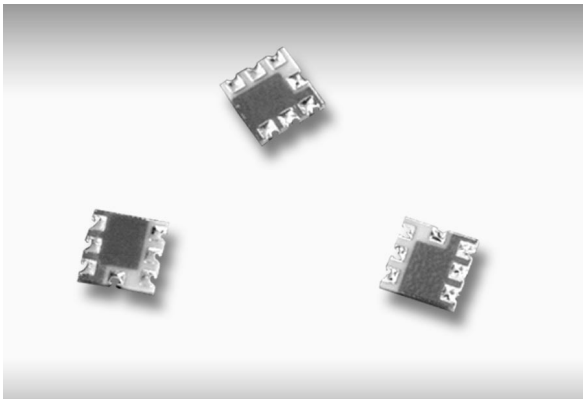


EMC Technology's SmartLoad® (Patent # 5,953,811 and 6,147,481) Power Sensing Terminations provide a single chip solution for measuring True RMS RF power. SmartLoad® responds to the heating effects of RF power and is ideal for amplifier, satellite, base station, BITE, and other microwave circuit applications.

Quick Selector Chart

Part Number	Sensitivity (mV/W)	Max Input Power (W)	Frequency Range (MHz)
PST-01-A-1	400	0.8	600-6000
PST-04-A-1	700	0.6	600-6000
PST-06-A-1	500	0.6	DC-6000

Table of Contents



EMC Technology's PST-06 series SmartLoad Power Sensing Termination uses an external bypass capacitor allowing for increased design control and calibration. These units are designed to operate over a wider frequency range and allow the designer to specify the best coupling capacitor for the application. The same built-in temperature compensation feature of other PST series SmartLoads is included in the PST-06 devices. PST-06 series devices also offer improved response time.

General Specifications

Impedance . . . . . 50 Ohms Nominal
Frequency . . . . . DC to 6000 MHz
Power Rating . . . . . 0.6 Watts Max @ 25° C
Power Derating . . . . . .100% @ 100° C
Derates to 0% @ 125° C
Operating Temperature . . . . . -55° C to 125° C
Sensitivity . . . . . .500 mV/Watt
Response Time . . . . . .10 mseconds
Power Supply . . . . . .14 mA Max @ 5V
VSWR . . . . . .1.50 Max
Offset Voltage . . . . . .±10 mV (no RF input)
Output Linearity . . .±10% Deviation from best fit straight line

Material Specifications

Substrate . . . . . .Alumina
Resistive Element . . . . . Thick Film
Termination Material . . . . . .Thick Film
Nickel Barrier, Solder Plated Finish

Pinout Designations

Pin	PST-06
1	Ground
2	Ground
3	External Capacitor to Ground*
4	Temperature Reference
5	Supply Voltage
6	Power Output Reference
7	RF Input**

* Bypass Capacitor Required
** External Input Coupling Capacitor Required

Ordering Information

PST - 06 - A - 1

SERIES
PST = Power Sensing Termination

SENSITIVITY
06 = 500 mV/W

EMC CODE

DESIGN CODE

PST-06