

# 80A09

## 26 GHz ESD Protection Device Datasheet



The Tektronix 80A09 is a DC-coupled voltage limiter that is used to protect sensitive electrical sampling module inputs from damage due to electric overload stress (EOS) and electrostatic discharge (ESD). Voltages greater than  $\pm 2$  V can damage the high-performance samplers (such as the 80E03 or 80E04) used in 8000 series sampling oscilloscopes. The 80A09 dramatically reduces the likelihood that such voltages will reach the sensitive high bandwidth sampling diodes in the electrical sampling module, ensuring that module measurement performance is not degraded.

### Key specifications (typical)

- Nominal Impedance: 50  $\Omega$
- Operating input signal range:  $\pm 1$  V<sub>DC</sub>
- Frequency Range: DC to 26.5 GHz
- Insertion Loss:
  - DC - 15 GHz:  $\leq 0.3$  dB
  - 15 GHz - 20 GHz:  $\leq 0.5$  dB
- Connectors: One male and one female K (2.92 mm): mates with SMA, 2.92 mm, and precision 3.5 mm connectors

### Protecting your instruments from EOS and ESD- the 80A09

The 80A09 is inserted into the path between the 80E04 TDR module inputs and the device under test.



Sampling modules with dual electrical channels, such as the 80E04 dual-channel 20 GHz electrical sampling module with TDR, require two 80A09 devices. Step generators within the 80E04 TDR modules uses  $\leq 250$  mV, which is less than the diode threshold of the 80A09 device.

You can also use the 80A09 to protect the electrical inputs of other electrical sampling modules and/or other device inputs, as long as the applied signal does not exceed  $\pm 1$  V or 26 GHz maximum bandwidth.

Always attach the 80A09 directly to the module input, as pictured above.

For environments where occasional high levels of ESD build-up is a challenge (such as when testing cables >5 meters long, or in a high-throughput production test area where PCBs or personnel move around rapidly), Tektronix recommends using an 80A02 EOS/ESD Isolation Module as the primary ESD energy dissipater, along with an 80A09 as a backup to guard against any inadvertently skipped or inadequately discharged static energy.

For more information on the use of the 80A09, see the *80A09 26 GHz ESD Protection Device Instructions* (Tektronix part number 071-3279-xx).

Ordering information

Models

80A09	26 GHz ESD Protection Device
Warranty	90 days



Tektronix is registered to ISO 9001 and ISO 14001 by SRI Quality System Registrar.

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**For Further Information.** Tektronix maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology. Please visit [www.tektronix.com](http://www.tektronix.com).  
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