TEKTRONIX

# 80A02

The Tektronix 80A02 is a single-channel EOS/ESD Protection Module designed to safeguard the sensitive input circuitry of Tektronix 80E00-series sampling modules from electrostatic discharge (ESD) and electrical overstress (EOS). It operates by automatically grounding the input until a control signal safely routes the signal path.

## SPECIFICATIONS

### General

| | |
|---|---|
| Interfaces | Mainframe control cable interface |

### Physical

| | |
|---|---|
| Power Supply | Powered by host mainframe via control cable |
| Operating Temperature | 0 to 50 °C °C |
| Dimensions (W×H×D) | 18 mm x 24 mm x 61 mm mm |
| Weight | 0.1 kg |

### RF Performance

| | |
|---|---|
| Bandwidth | >26 GHz |
| Rise Time (10% to 90%) | <17 ps |
| Characteristic Impedance | 50 Ω |
| Insertion Loss (DC to 10 GHz) | <0.6 dB (typical) |
| Insertion Loss (10 to 20 GHz) | <1.2 dB (typical) |
| Insertion Loss (20 to 26 GHz) | <1.8 dB (typical) |
| Return Loss (DC to 10 GHz) | >15 dB (typical) |
| Return Loss (10 to 20 GHz) | >10 dB (typical) |
| Return Loss (20 to 26 GHz) | >7 dB (typical) |
| Maximum Input Voltage | ±2.0 V |

### RF Connections

| | |
|---|---|
| RF Input Connector | SMA Female |
| RF Output Connector | SMA Male |
| Number of Channels | 1 |

### Protection Characteristics

| | |
|---|---|
| Operating Principle | Coaxial relay grounds input to discharge ESD/EOS before connection to sampling head |

### Compatibility

| | |
|---|---|
| Compatible Mainframes | TDS8000, CSA8000, TDS8200, CSA8200, DSA8300 |
| Compatible Sampling Modules | Tektronix 80E00 series (e.g. 80E01, 80E02, 80E03, 80E04, 80E06, 80E07, 80E08, 80E09, 80E10) |

### Control & Interfaces

| | |
|---|---|
| Control Input Connector | SMB |
| Control Signal Level | TTL compatible (High = Pass-through, Low = Grounded/Protected) |

### Performance

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|---|---|
| Default State (Power Off / Disconnected) | Protected (Input grounded to shell) |
| Relay Actuation Time | 20 ms |
| Relay Type | Failsafe |

### Reliability

| | |
|---|---|
| Relay Lifetime | 1,000,000 cycles |

### Environmental

| | |
|---|---|
| Non-Operating Temperature | -40 °C to +75 °C |
| Operating Humidity | 20% to 80% RH (non-condensing) at up to +40 °C, derated to 45% RH at +50 °C |
| Non-Operating Humidity | 5% to 90% RH (non-condensing) at up to +40 °C, derated to 45% RH at +60 °C |
| Operating Altitude | 3,000 m (9,843 ft) |
| Non-Operating Altitude | 12,192 m (40,000 ft) |

## TECHNOLOGY

EOS/ESD Protection

## APPLICATIONS

RF and Microwave Sampling Oscilloscope Input Protection