

CoolCAD Lightning Strike Protection

Circuit Protection for Electronics: SiC Devices for ESD and Lightning Strike Defense



Features

Bidirectional surge protection
Protection for Aircraft Lightning
Induced Transients (Also as part of
DO160E, Sect 22E, DO160G, Level 4)
Waveform 5A: Pin Injection,
1500V/15A, 500V/500A, 300V/300A,
200V/200A and 100V/100A
Waveform 3: Pin Injection, 100V/4A,
250V/10A, 600V/24A, 1500V/60A
1MHZ
Waveform 2: Pin Injection, 100V/4A,
250V/10A, 750V/50A and 1600V/107A

Benefits

High breakdown field: thinner drift
regions, yielding lower on-
resistance for same blocking
capability
High thermal conductivity: rapid
heat spread and recovery following
surge events
Wide bandgap: operate at junction
temperatures exceeding 200°C
Fast carrier mobility and low
capacitance minimize response
delay during ns-scale events

Advantages

Robust defense against ESD events
and lightning-induced transients
Supports the survivability of
mission-critical electronics in
aerospace, communications, and
embedded environments
Higher breakdown voltage
Faster response time
Superior thermal conductivity
Absorbs higher energy surges
Improved durability and reliability
long-term
Protects low-voltage electronics
operating in high-stress
environments

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