



Model 2654-2 Lightning Transient Generator for RTCA/DO-160E/F/G Section 22 lightning induced transient susceptibility testing



DESCRIPTION



APPLICATION

The **Solar Model 2654-2 Lightning Generator** synthesizes electrical impulses needed for testing susceptibility to transients induced in aircraft equipment by lightning strikes. The peak voltage and current requirements of RTCA/DO-160E/F/G Section 22 are met at Levels 1 through 3. Using available accessory devices, transient waveforms can be applied by pin injection, cable bundle injection and ground injection.

DESCRIPTION

The transient format, repetition rate, and amplitude are selected using two controls on the front panel of the **Model 2654-2**.

The system can generate a single transient at the press of a button, or it can be programmed to generate multiple strokes as required by RTCA/DO-160E/F/G, Section 22. Waveforms can be delivered singly or in groups of 10, and for waveform 3A and 3B multiple burst sequences can be repeated at intervals of 3 seconds for 5 minutes. Multiple stroke and multiple burst tests can be performed with pseudo random or uniform transient spacing.

The transient generator modules installed in the system mainframe are automatically recognized by the microcontroller, and transient format and repetition rate options are displayed on an LCD screen. Because of the modular design, the system may be ordered with only the modules a user requires. Other modules supporting additional DO-160 waveforms may be added at any time.

FEATURES

- Modular design
- Single rack portability
- Programmable single stroke, multiple stroke, multiple burst waveforms
- Pin injection, cable bundle injection, ground injection up to Level 3
- Self-contained microprocessor control
- LCD system display

(See accessories tab for accessories recommended for testing.)



SPECIFICATIONS



Power requirements: 115 V 60 Hz 4 A max.; 230V 50 Hz, 2 A max.

Dimensions: 20.2" wide x 6.4" high x 19.9" deep (51.3 cm x 16.3 cm x 50.5 cm)

Weight: 57 lbs. (25 kg) with all modules slots filled

COMPONENTS



The Solar Type 2654-2 Lightning Generator package includes the following components:



Solar Type 2654-B Waveform 2 Module

WVFM 2 100 NS rise
6.4 μ S exponential



Solar Type 2654-C Waveform 3a Module

WVFM 3A
1 MHz sinusoidal



Solar Type 2654-D Waveform 3b Module

WVFM 3B
10 MHz sinusoidal



Solar Type 2654-1/ED Waveform 4 driver Module

WVFM 4 6.4 μ S rise
69 μ S @ 50%
V-exponential



External Solar Type 2654-1/FD Waveform 1/5a Driver Module

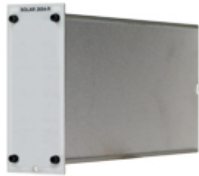
WVFM 1 6.4 μ S rise 69 μ S @ 50% I-exponential
WVFM 5a 40 μ S rise 120 μ S @ 50% exponential



Solar Type 2654-1/FDG Waveform 1 driver Module

WVFM 5 A Ground injection
40 μ S rise
120 μ S @ 50%
I-exponential

Solar Type 2654-R Blank Interface Module



Solar Type 2654-1/FEP External Module
Waveform 4, pin injection, levels 1-3 eut



Solar Type 2654-1/FEG External Module



Solar Type 2654-1/AEC External Module



Solar Type 2654-1/EEC1/2 External Module



Solar Type 2654-1/EEC3 External Module



Solar Type 2654-1/EEG External Module



Solar Type 2654-1/EEP External Module



Solar Type 2902-1 Current Sensing Resistor
0.02 Ω \pm 1%, 1 V = 50 A



Solar Type 2903-1 25 Ω \pm 1% Series Resistor
WVFM 3A pin injection levels 1-3



Solar Type 2115-1 Conditioning Network

Solar Type 2806-1M coaxial cable with



banana plug connectors



Solar Type 2806-1BN coaxial cable with banana plug and N connector



Solar Type 9719-1N Current Injection Probe

DO160 SECTION 22 EQUIPMENT AND ACCESSORIES



Solar Electronics equipment used for DO160F Section 22 Levels 1-3	W1	W2	W3A 1 MHz		W3B 10 MHz		W4			W5A	
	CB	CB	PIN	CB	CB	PIN	CB	GI	PIN	GI	
2654-2 Lightning Transient Generator	X	X	X	X	X	X	X	X	X	X	X
21406-1N RF Current Probe	X	X	X	X	X	X	X	X	X	X	X
2654-1/FD driver module	X									X	
2654-1/FDG driver module											X
2654-B driver module		X									
2654-C driver module			X	X							
2654-D driver module					X						
2654-1/ED driver module						X	X	X			
2654-R blank interface module											
2654-1/AEC external module	X										
2654-1/EEC1/2 external module							X				
2654-1/EEC3 external module							X				
2654-1/EEP external module						X					
2654-1/FEP external module										X	
2654-1/FEG external module											X
2115-1 conditioning network					X						
2809-1 resistive current monitor loop	X										
2902-1 current sensing resistor											X
2903-1 series resistor			X								
9616-2 injection clamp	X						XX*				
9719-1N injection probe					X						
9127-1 injection clamp				X							
2806-1M (coaxial cable with banana plug connectors)	X	X	X			X	X	X	X	X	X
2806-1BN (coaxial cable with banana plug and N connectors)				X	X						

* Two units required for test

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