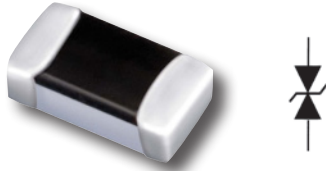


AEC-Q200 QUALIFIED LOW CAPACITANCE ESD PROTECTION DEVICES



Most ICs are compact, highly integrated semiconductors that are manufactured with highest precision. These are used in various applications, such as laptops / computers, mobile phones, flat-panel displays. The silicon oxide layers of ICs are very thin and are susceptible to electrostatic discharge (ESD). Designers carry the risk that a non-use, or use of an unsuitable protection element, the application can draw an unstable performance, can be damage or possibly lead to a fatal failure. Therefore it is recommended that interfaces and ESD susceptible components of an application should be equipped with an ESD protection to prevent damage of the application.

The EGA protective elements of the manufacturer INPAQ provide this ESD protection without affecting the original circuit greatly. In the unused condition they have a high resistance. Fast response times (<1ns), low clamping voltages (30V), low leakage currents (<0.01µA), and a very low capacitance (0.2pF) are some of the main features.

Frequently, the ESD protection is taken into account in the final stage of system design. Designer then need the flexibility to select an ESD protection component that does not interfere with the PCB layout and require no additional board space. INPAQ's ESD solutions allow developers to add ESD components in the final stages of a design without any major change in the board layout.

In addition to the standard components INPAQ now offers new AEC-Q200 qualified products, the EGA AM series, which is used in the automotive sector.

The EGA devices typically protect antenna circuits and RF modules, as well as USB, HDMI, DVI interfaces. They are available in different versions to support a variety of PCB designs, to protect the application in the best way against ESD.

FEATURES

- » Qualified based on AEC-Q200
- » For RoHS Compliance.
- » Meet IEC61000-4-2 Level 4 standard
- » Extremely quick response time (<1ns)
- » Extremely low capacitance (0.2 pF typical)
- » Extremely low leakage current
- » Bi-directional device
- » More than 1000 pulses ESD withstand capability
- » Compact size for EIA 0402 and EIA0603
- » Operating temperature range: -55°C ... +125°C
- » Storage temperature range: -55°C ... +125°C

ORDERING CODE

E	G	A	1	0	6	0	3	V	2	4	A	M	-	□
1	2	3	4	5	6									

- ◆ 1 : ESDGUARD Series
- ◆ 2 : Single element
- ◆ 3 : Chip size, EIA0402, EIA 0603
- ◆ 4 : Max rated voltage, VDC
- ◆ 5 : "AM" : Model Code (Meet AECQ-200)
- ◆ 6 : Suffix for Special Code

PERFORMANCE

PARAMETER	SPECIFICATION EGA10402			SPECIFICATION EGA10603		
	V05	V12	V24	V05	V12	V24
Rated voltage max. V_{DC} [V]	5	12	24	5	12	24
Leakage current I_L [µA]		0.01			0.01	
Peak voltage V_p [V]		300 typ.			300 typ.	
Trigger voltage V_t [V]		300 typ.			300 typ.	
Clamping voltage V_c [V]		30 typ.			30 typ.	
Capacitance @ 1 MHz C_p [pF]		0.2 typ.			0.2 typ.	
Response time [ns]		< 1			< 1	
ESD voltage capability, IEC 61000-4-2 Contact discharge mode		8 kV typ.			8 kV typ.	
ESD voltage capability, IEC61000-4-2 Air discharge mode		15 kV typ.			15 kV typ.	
ESD withstand pulses [pulses]		1000 typ.			1000 typ.	