SMD Isotropic Antenna for KES (Keyless Entry System)

Premo has developed a new electromagnetic 3D-coil antenna initially designed for KES applications. The new series 3DC14AOI Passive Entry System has revolutionized in recent years the vehicle opening systems to become standard within the automotive industry. The key new designs increasingly require lower profiles and more robust parts to electrical and mechanical (up to 1000 drops from more than 1 m on concrete surface).

3DC14AOI is a three orthogonal coils antenna each of them in the three spatial axes. Surface mount devices (SMD), also offers side metallization, which allows automatic recognition of soldering process AOI (automatic optical inspection). The pads are gold finishing for assuring connectivity between the component and the PCB circuitry in safer and better way. Furthermore the contact surface provided by these pads attached to the lateral meniscus formed during the welding process on the metallization side increase in over 25% the mechanical contact between the component and the PCB in relation to the existing products on the market.

This new antenna, designed in a low-profile form (15.7x13.7x3.6mm) offers a high robustness since the windings are fully protected by a polymer matrix (vacuum process) for high stability: less than 200ppm expansion and thermal resistance: supports a double lead free reflow (270 ° C – peak).

The 3DC14AOI offers high stability in temperature (- 40 ° C-> 85 ° C) in a compact and fully protected format (superior protection at IP685).

The 3DC14AOI is offered in a standard value of L = 7.2 mH with sensitivity greater than 80 mVpp / App / m @ 125 kHz and maintaining a Q factor of 20; recommended for Atmel, NXP and TI chip-sets among others, this antenna can be manufactured

with different electromagnetic values in each axe according to customer needs.

The antenna is AEC-Q-200 qualified (one of the more restrictive electronic components quality standards) for applications in the automotive. This means a warranty and safety in the behaviour and performance of the component in applications both in domestic and industrial environment and of course in automotive.

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