QRE™

INTRODUCTION

QRE™ is a Quick Lock Ruggedized connector. QRE™ was developed to provide the same advantages as QMA over SMA and designed more for aerospace and defense applications.

QRE™ is made of high grade stainless steel 316L, with Teflon coated fluoro-silicone sealing o-rings which make the QRE™ interface waterproof and ultra resistant to chemical aggression and corrosion. The outer slotted spring contact inspired from the QMA design was reinforced to provide reliable electrical contact during vibration and shock conditions. All QRE™ material were chosen and optimized to operate within the extended temperature range typical in Mil-Aerospace applications. Its superior latching mechanism provides the advantage of a snap-on connector while ensuring a very robust and secure connection. The retention force of the interface is 3 times higher than the QMA. With similar dimensions, QRE™ offers high density integration capabilities like QMA. In addition, a specific tool has been designed to easily disconnect QRE™ plugs on high density applications such as active array radar modules or panels.

A limited range of straight and right angle connectors and receptacles is available for semi-rigid and SHF high frequency flexible cable. New connectors can be quickly developed to fit your own ruggedized coaxial cable. QRE™ cable assemblies can be delivered using our SHF airframe, lightweight or outdoor cables, with or without antiabrasion jacket. Adapters are available for test and measurement in QRE™ to SMA and QRE™ to SMA 3.5 configurations.

CHARACTERISTICS

TEST / CHARACTERISTICS	VALUES / REMARKS

ELECTRICAL CHARACTERISTICS

Impedance	50Ω
Frequency Range	DC - 12.4 GHz
V.S.W.R. Typical **• DC - 3 GHz** **• 3 GHz - 6 GHz** **• 6 GHz - 12.4 GHz**	 1.06 1.11 1.17
Max Insertion Loss	0.25
Insulation Resistance	5000 MΩ min
Voltage Rating	335 Veff max
Dielectric Withstanting Voltage	1000 Veff min
Admissible Power (CW)	450 W @ 1 GHz - 100 W @ 18 GHz
RF Leakage	-95 dB min @ 3 GHz -80 dB min @ 12.4 GHz

MECHANICAL CHARACTERISTICS

Durability	100 matings (500 matings option is available)
Engagement and Disengagement Forces	65 N typ
Retention Force for Interface	150 N min
Minimum Connector Pitch	12.4 mm (distance between center conductors)
Vibration	MIL STD 202 Method 204 Condition D
Shock	MIL STD 202 Method 213 Condition I

ENVIRONMENTAL CHARACTERISTICS

Temperature Range	-55 °C/+165 °C
IP rating (When Mated)	IP68
Hermeticity (When Mated)	10^{-6} atm.cm^3/s (CEI 68-2-17 Method Qk)

MATERIALS AND PLATING

	Material	Plating
Connector bodies	Stainless Steel 316L	Passivated
Center Contacts	Beryllium Copper	Gold over Nickel
Outer Contact	Beryllium Copper	NPGR
Insulators	PTFE	-
O-rings	Fluorosilicone	-