

PL259 Losses

By G8MNY

(Updated Apr 11)

(8 Bit ASCII graphics use code page 437 or 850, Terminal Font)

VK2AWZ wrote:-

> By the way where did the SO and PL names come from. We referred to them
> as amphenol connectors!

I have a recollection having read that the letters came from "socket" and
"plug". As regards the various numbers (SO-239/PL-259), I've no idea.

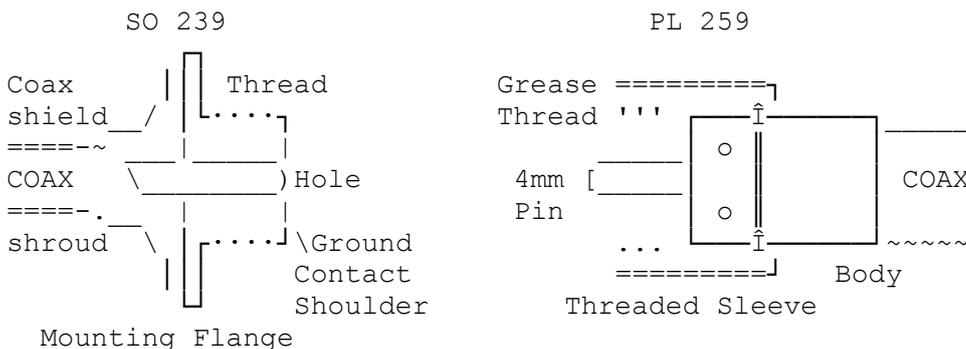
Also, ARRL, in the January 1998 issue of QST in their New Ham Companion,
The Doctor is IN; ran a "loss comparison" between the UHF and N connectors
from 1.8 up to 2000 MHz. They claimed that the loss of a UHF connector at
450 MHz was 0.09 dB compared to 0 dB for the N connector. Of course this
is dependent on the quality of both the connector and the soldering, but
anyone that can hear this difference has rather sharp ears! But seriously,
that short piece is rather interesting to read, and the results are
somewhat surprising.

73 - Jan, SM0WHH @ SL0ZS

Message timed: 10:26 on 2007-Oct-29

SOME OTHER FACTS

The 10 Amp 500 Volt rating of the 4mm wander pin of the "UHF" PL259 connector,
properly made & used, does take some beating. The high current & voltage rating
means it is far more able to handle SWR mismatch, than say the tiny pin of a
other plug systems. 50Ω N/BNC/TNC plugs use centre pins of only 1.3mm or
3x smaller, hence the need for good quality silver/gold plate to keep the
contact losses down compared to a rugged PL259. This fact is often ignored by
the purists. You have to go to the C type plug & socket with its large pin for
a better rating.



The screw up part is NOT the ground contact as many think, it is used to hold
the inner ground contact shoulder firmly to socket shoulder, so it is important
the screw is kept tight.

Moving parts like the threaded part of the sleeve & body should be greased to
reduce wear, & to the mating RF kit too. This also ensures a tight snug water
repellent fit (not water proof), & less chance of being cross threaded! New
ungreased connectors do corrode & seize tight, even under water tight tape!

Typical plug impedance is 30 ohms for its 15mm length. This short impedance
difference means the mismatch loss caused is only significant if the length is
greater than 1/12 of a wavelength. So the loss at 70cm is only just apparent on
a properly made & used plug, as used by a few aerial makers!

Did you know you can get PL259 plugs & SO239 sockets for large low loss LDF550 coax? This is for things like 1km VHF radio feeder run on board large ship!

And you can even get true 50ohm versions made like the waterproof N plugs, but at 50x the price of the cheap ones!

Why don't U send an interesting bul?

73 De John, G8MNY @ GB7CIP