Reliability calculation

In accordance with RDF93 model (June 93) from CNET

Current sensor – CS range : CS300…CS2000

Environment :

. Traction application
. Ambient temperature : 40°C
. Ground mobile material

Parameters	**CS300**	**CS500**	**CS503**	**CS1000**	**CS2000**
$I_P = I_{PN}$ (A rms)	300	500	500	1000	2000
N_P/N_S	1/2000	1/5000	1/3500	1/5000	1/5000
$I_S = I_{SN}$ (mA rms)	150	100	143	200	400
Power supply (±V d.c.)	±15	±24	±24	±24	±24
Secondary winding resistance (Ω)	27	64	88	46	30

Results	**CS300**	**CS500**	**CS503**	**CS1000**	**CS2000**
Failure rate of the equipped board (10^{-9}/h)	443	449	508	528	413
Failure rate of the Hall probe (10^{-9}/h)	43	51	51	51	62
Failure rate of the secondary windings (10^{-9}/h)	12	12	12	12	12
Failure rate of the finished sensor (10^{-9}/h)	498	512	571	591	487
MTBF value (hours)	2 008 032	1 953 125	1 751 313	1 692 047	2 053 388
MTBF value (years)	91	89	80	77	94