

**MIL-STD-188-125-1 ACCEPTANCE PCI TESTING SUMMARY
MPE DS33632/275 HEMP Filter (2X 32 A, 250 VAC)**

Jaxon Engineering and Maintenance (JEM) has performed MIL-STD-188-125-1 short (E1) and intermediate (E2) pulse acceptance pulsed-current injection (PCI) testing on a single production unit of HEMP PPD (Point-of-Entry Protective Device) PN DS33632/275 manufactured by MPE of Liverpool, UK. The DS33632/275 is a two-line filter rated at 32 A and 250 VAC with surge protection on each line provided by a single CKE Z60M431 MOV (metal-oxide varistor).

The MPE DS33738/275 was classified as an unrestricted intersite commercial power line PPD as defined in MIL-STD-188-125-1. The short (E1) pulse acceptance PCI testing of the DS33738/275 was performed IAW MIL-STD-188-125-1 with separate 2.0 Ω dummy resistive loads applied between each clean-side terminal and the filter ground terminal. The unit tested met all applicable acceptance PCI performance requirements given in MIL-STD-188-125-1. There was no evidence of filter or MOV damage or degradation resulting from application of either the short or intermediate pulse transients. Furthermore, the peak, derivative and root action norms of the measured short pulse residual current waveforms were well below the applicable limits given in MIL-STD-188-125-1 as highlighted below.

SHORT PULSE NORM	LIMIT	WORST CASE
Peak Current	10 A	0.22 A
Peak di/dt	1E7 A/sec	5.8E3 A/sec
Root Action	1.6E-1 Avsec	6.7E-3 Avsec

DS33632/275 – MIL-STD-188-125-1 Acceptance PCI – Worst Case E1 Residual Current Norms

A summary of the maximum residual current peak, derivative and root action norms at each of the sevel injection levels from the entire population of DS33632/275 units tested is provided below.

DS33632/275 with Z60M431		INJECTION LEVEL (A)						
NORM and LIMIT		50	125	250	500	1000	1750	2500
MAX PEAK	10 A	0.06	0.10	0.12	0.16	0.20	0.21	0.22
MAX DERIVATIVE	1E7 A/sec	1.6E+03	2.7E+03	3.1E+03	4.1E+03	5.4E+03	5.6E+03	5.8E+03
MAX ROOT ACTION	1.6E-1 Avsec	2.3E-03	3.5E-03	3.5E-03	5.5E-03	6.7E-03	6.0E-03	6.5E-03

DS33632/275 – MIL-STD-188-125-1 Acceptance PCI – Maximum norms versus injection level