

This Document describes and specifies the electrical and mechanical characteristics of SGE2643-3 high voltage transformer. This component should be designed and manufactured in accordance with Engineering Specification LES3811T

### 1. Electrical Characteristics

| Items                                     | Inductance ( at 10Khz, 0.1V)   |   |      | Items                                   | D.C Resistance |     |     |
|---|--------------------------------|---|------|---|----------------|-----|-----|
|   | Min                            | Nom   | Max  |   | Min            | Nom | Max |
| L1-2 (uH)                                 | 121                            | 137   | 152  | Rdc1-2(mΩ)                              |                | 196 |     |
| L2-3 (uH)                                 | 121                            | 137   | 152  | Rdc2-3(mΩ)                              |                | 196 |     |
| L4-5 (mH)                                 |                                | 956   |      | Rdc4-5(Ω)                               |                | 397 | 426 |
| L <sub>LKG1-2</sub> , L <sub>LKG2-3</sub> | Inductance ( at 100Khz, 1Vrms) |   |      | Should be shorted pin 4-5<br>Bifilaring |                |     |     |
|   | 11.6                           | 13  | 15.4 |   |                |     |     |
| L <sub>LKG1-2</sub> /L <sub>LKG2-3</sub>  | 0.96                           | 1   | 1.04 |   |                |     |     |
| Secondary Self Capacitance                |                                |   |      | HP4280A 1Mhz C meter, Floating mode     |                |     |     |
| C4-5(pF)                                  | 1.9                            | 2.3   | 3    |   |                |     |     |
| Dielectric Voltage Withstand              |                                |   |      |   |                |     |     |
| Secondary to Core                         |                                | 60 Hz.,Arc-detect enabled, 5 sec. min., 200uA max. leakage current  |      | 2500Vrms min. ( 1min. 60Hz)             |                |     |     |
| Primary to Core                           |                                |   |      | 1000Vrms min.                           |                |     |     |
| Primary to Secondary                      |                                |   |      | 1000Vrms min.                           |                |     |     |
| Operating Test                            |                                |   |      |   |                |     |     |
| V4-5                                      |                                | Primary driven with 80 kHz. sine wave source (pin 1-3), secondary measured with Tektronix P6015 (or equiv.).. |      | 2000Vrms min.                           |                |     |     |

### 2. Winding Specifications

|                  | Primary                          |                                  | Secondary                     |
|------------------|----------------------------------|----------------------------------|-------------------------------|
|                  | Pin 1 – 2                        | Pin 2-3                          | Pin 4-5                       |
| Winding Sequence | 2S-1F                            | 3S-2F                            | 5S-4F                         |
| Wire Size & Type | #35 x2, Single Insulation, 130°C | #35 x2, Single Insulation, 130°C | #46, Triple insulation, 130°C |
| Number of Turns  | 20                               | 20                               | 1700                          |
| Winding Method   | Bifilar on Sector #1             |                                  | Sector #3 to #7. skip #2      |

### 3. Physical Specification & Wiring Diagram

