



205 Crawford St. Leominster, MA 01453 (978)534-5776 Fax(978)537-4246

**ELECTRICAL CHARACTERISTICS: OM400L60CMA (Tc= 25°C unless otherwise specified)**

| Characteristic | Symbol | Min. | Typ. | Max | Unit |
|----------------|--------|------|------|-----|------|
|----------------|--------|------|------|-----|------|

**OFF CHARACTERISTICS**

|                                                   |      |     |    |   |    |
|---------------------------------------------------|------|-----|----|---|----|
| Collector Emitter Breakdown Voltage, VCE=0V       | VCES | 600 |    |   | V  |
| Zero Gate Voltage Drain Current, VGE=0, VCE =600V | ICES |     | 25 |   | μA |
| Gate Emitter Leakage Current, VGE=+/-15V, VCE=0V  | IGES |     |    | 2 | μA |

**ON CHARACTERISTICS**

|                                                        |          |     |     |     |   |
|--------------------------------------------------------|----------|-----|-----|-----|---|
| Gate Threshold Voltage, VCE=VGE, IC=6mA                | VGE(TH)  | 4.5 |     | 6.5 | V |
| Collector Emitter Saturation Voltage, VGE=15V, IC=400A | VCE(SAT) |     | 2.4 | 2.7 | V |

**DYNAMIC CHARACTERISTICS**

|                           |                 |      |  |       |    |
|---------------------------|-----------------|------|--|-------|----|
| Fwd. Transconductance     | VCE=5V, IC=400A | gfs  |  | 42    | S  |
| Input Capacitance         | VGE=0           | Cies |  | 20000 | pF |
| Output Capacitance        | VCE=25V         | Coes |  | 1080  | pF |
| Rev. Transfer Capacitance | f=1.0MHz        | Cres |  | 1120  | pF |

**SWITCHING INDUCTIVE LOAD CHARACTERISTICS**

|                     |                                                                      |         |  |     |      |    |
|---------------------|----------------------------------------------------------------------|---------|--|-----|------|----|
| Turn-On Delay Time  | VCC= 300V, IC=400A<br><br>VGE=+15/-10V, RG=6.8Ω<br>L=100μH, Tj=125°C | t(on)   |  | 800 | 1600 | nS |
| Rise Time           |                                                                      | tr      |  | 400 | 800  | nS |
| Turn-on Losses      |                                                                      | Eon     |  | 20  |      | mJ |
|                     |                                                                      |         |  |     |      |    |
| Turn-off Delay Time |                                                                      | td(off) |  | 800 | 1200 | nS |
| Fall Time           |                                                                      | tf      |  | 350 | 800  | nS |
| Turn-off Losses     |                                                                      | Eoff    |  | 25  |      | mJ |

**DIODE CHARACTERISTICS**

|                                  |                                                                                                     |     |  |     |     |    |
|----------------------------------|-----------------------------------------------------------------------------------------------------|-----|--|-----|-----|----|
| Maximum Forward Voltage          | IF=400A, Tj=25°C<br>Tj=125°C                                                                        | VF  |  | 1.5 | 2.0 | V  |
| Reverse Recovery Characteristics | VR=300V, Tj=25°C<br>IF=400A, Tj=125°C<br>dI/dt=-1500A/μS Tj=25°C<br>Tj=125°C<br>Tj=25°C<br>Tj=125°C | Qrr |  | 10  |     | μC |
|                                  |                                                                                                     |     |  | 24  |     |    |
|                                  |                                                                                                     | Irr |  | 60  |     | A  |
|                                  |                                                                                                     |     |  | 90  |     |    |
|                                  |                                                                                                     | trr |  | 160 |     | nS |
|                                  |                                                                                                     |     |  | 220 |     |    |

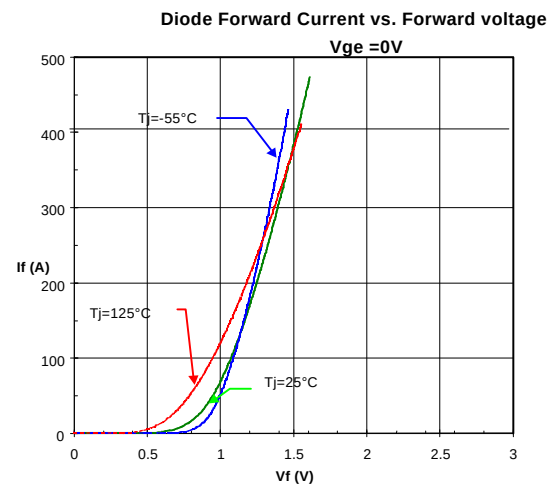
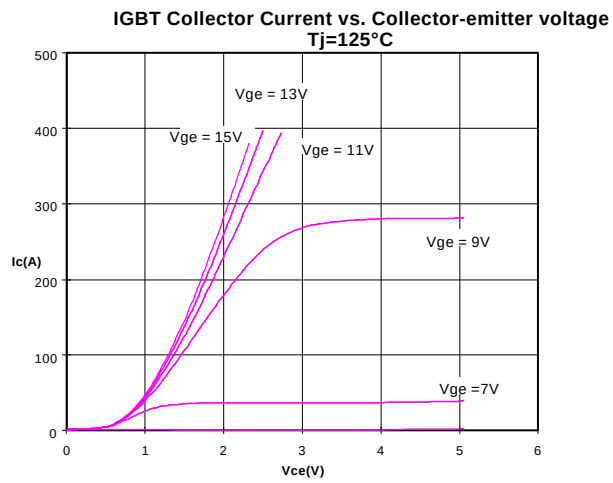
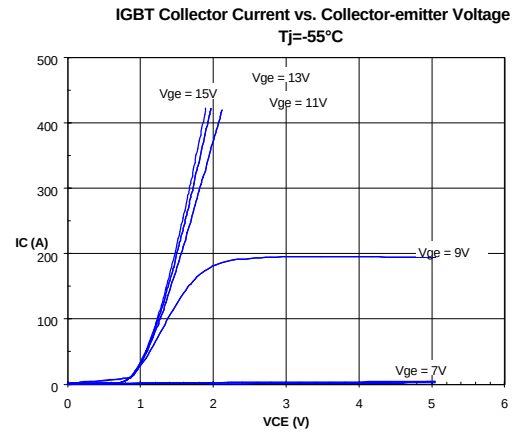
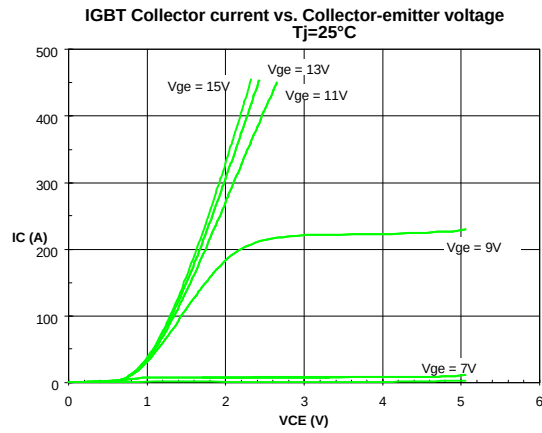
**THERMAL AND MECHANICAL CHARACTERISTICS**

|                                                  |           |   |    |       |       |
|--------------------------------------------------|-----------|---|----|-------|-------|
| Thermal Resistance, Junction to Case (Per IGBT)  | RthJC     |   |    | 0.085 | °C/W  |
| Thermal Resistance, Junction to Case (Per Diode) | RthJC     |   |    | 0.15  | °C/W  |
| Maximum Junction Temperature                     | TjMAX     |   |    | 150   | °C    |
| Isolation Voltage                                | ViSRMS    |   |    | 2500  | V     |
| Screw Torque                                     | Mounting  | - | 15 | 20    | in-lb |
| Screw Torque (M6)                                | Terminals |   | 10 | 12    | in-lb |
| Screw Torque (M3)                                | Terminals | - | 6  | 8     | in-lb |
| Module Weight                                    | -         |   |    | 400   | Grams |



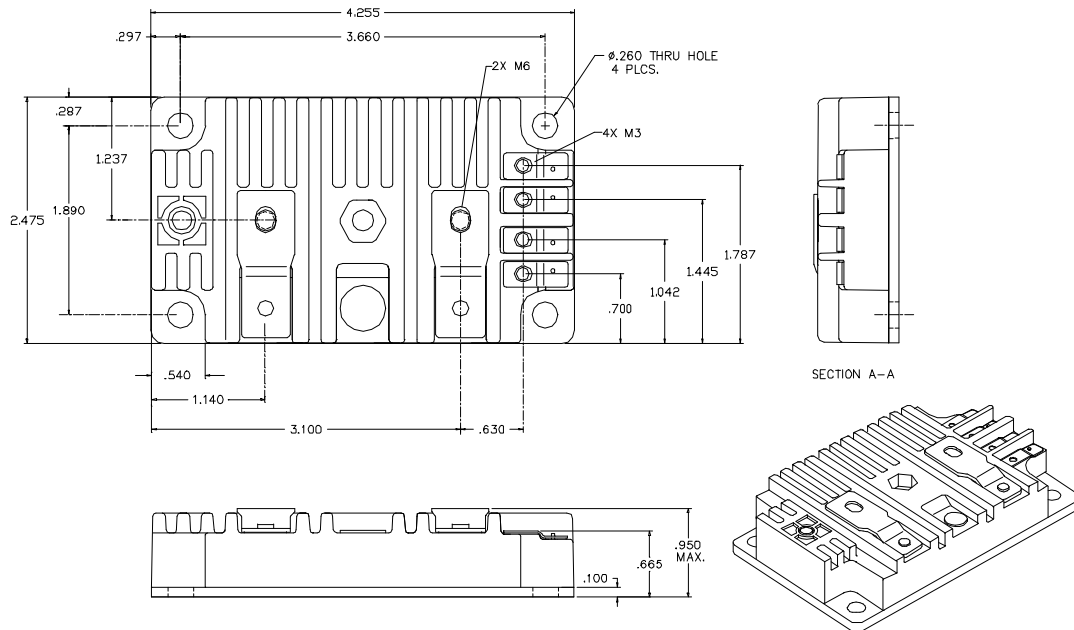
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## OM400L60CMA



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**MECHANICAL OUTLINE**



**EQUIVALENT CIRCUIT**

