

**ELECTRICAL CHARACTERISTICS (  $T_A = 25^\circ\text{C}$  Unless otherwise noted )**

| PARAMETER                    |                                                        | MIN  | TYP  | MAX | UNITS            | TEST CONDITION                                                                             |
|------------------------------|--------------------------------------------------------|------|------|-----|------------------|--------------------------------------------------------------------------------------------|
| Input                        | Forward Voltage ( $V_F$ )                              |      | 1.2  | 1.5 | V                | $I_F = 20\text{mA}$                                                                        |
|                              | Reverse Current ( $I_R$ )                              |      |      | 10  | $\mu\text{A}$    | $V_R = 6\text{V}$                                                                          |
| Output                       | Peak Off-state Current ( $I_{\text{DRM}}$ )            | 250  |      | 500 | nA               | $V_{\text{TM}} = 250\text{V}$ (note 1)                                                     |
|                              | Peak Blocking Voltage ( $V_{\text{DRM}}$ )             |      |      |     | V                | $I_{\text{DRM}} = 500\text{nA}$                                                            |
|                              | On-state Voltage ( $V_{\text{TM}}$ )                   |      |      | 3.0 | V                | $I_{\text{TM}} = 100\text{mA}$ (peak)                                                      |
|                              | Critical rate of rise of off-state Voltage ( $dv/dt$ ) | 600  | 1500 |     | V/ $\mu\text{s}$ |                                                                                            |
| Coupled                      | Input Current to Trigger ( $I_{\text{FT}}$ ) (note 2 ) |      |      |     |                  | $V_{\text{TM}} = 3\text{V}$ ( note 2 )                                                     |
|                              | MOC3030                                                |      |      | 30  | mA               |                                                                                            |
|                              | MOC3031                                                |      |      | 15  | mA               |                                                                                            |
|                              | MOC3032                                                |      |      | 10  | mA               |                                                                                            |
|                              | MOC3033                                                |      |      | 5   | mA               |                                                                                            |
|                              | Holding Current , either direction ( $I_H$ )           | 5300 | 400  |     | $\mu\text{A}$    | See note 3                                                                                 |
|                              | Input to Output Isolation Voltage $V_{\text{ISO}}$     |      |      |     | $V_{\text{RMS}}$ |                                                                                            |
|                              |                                                        |      |      |     | $V_{\text{PK}}$  |                                                                                            |
| Zero Crossing Characteristic | Inhibit Voltage ( $V_{\text{IH}}$ )                    |      |      | 20  | V                | $I_F = \text{Rated } I_{\text{FT}}$<br>MT1-MT2 Voltage above which device will not trigger |
|                              | Leakage in Inhibited State ( $I_S$ )                   |      |      | 500 | $\mu\text{A}$    | $I_F = \text{Rated } I_{\text{FT}}$<br>$V_{\text{DRM}} = 250\text{V}$ off-state            |

Note 1. Test voltage must be applied within  $dv/dt$  rating.

Note 2. Guaranteed to trigger at an  $I_F$  value less than or equal to max.  $I_{\text{FT}}$ , recommended  $I_F$  lies between Rated  $I_{\text{FT}}$  and absolute max.  $I_F$ .

Note 3. Measured with input leads shorted together and output leads shorted together.