

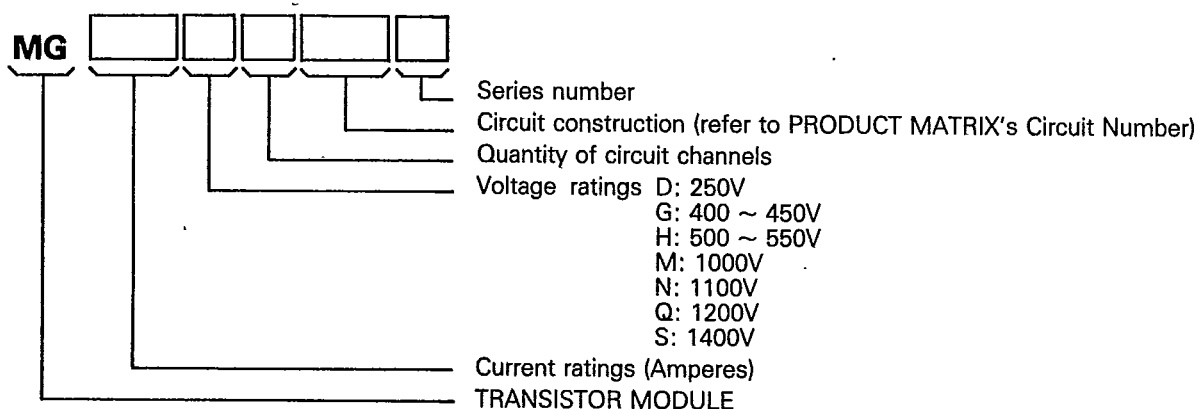
**WESTCODE TRANSISTOR MODULES** are designed for use in various types of motor control and other high power switching applications and consist of insulated type **DARLINGTON TRANSISTORS**. The electrodes are fully isolated from heat sink. Single ended electrode construction is used to greatly simplify mounting. A wide variety of devices are available with current capability up to 400A and voltage rating up to 1400V.

## FEATURES

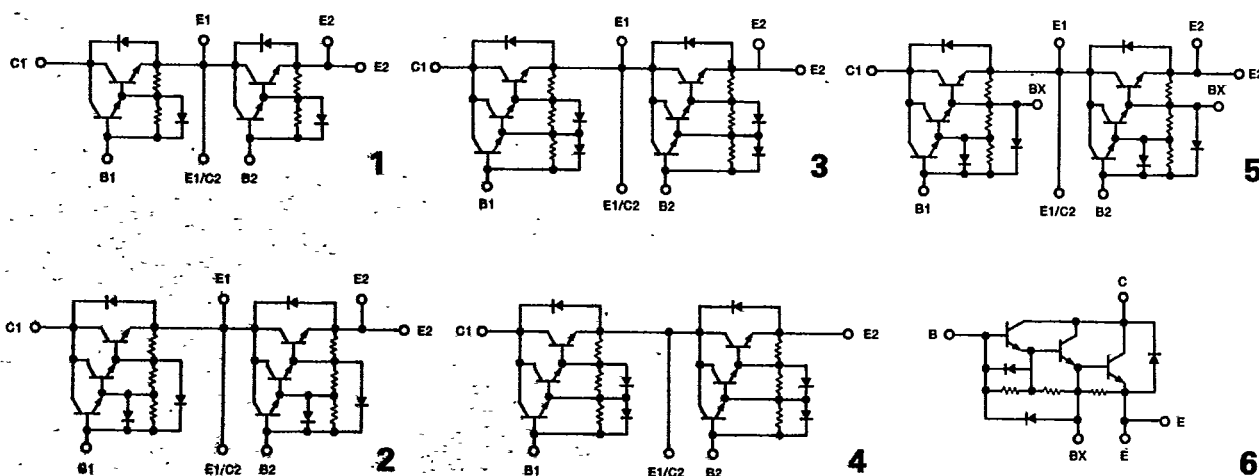
1. Electrodes are isolated from the heat sink (2500V AC).
2. High DC current Gain ( $h_{FE}$ ) (80 or 100 MIN).
3. Low saturation voltage (2 or 2.5V maximum).
4. Wide safe operating area.

## DESIGNATION CODE

Modules are specified by a type number using the format shown below to indicate the characteristics.



## EQUIVALENT CIRCUITS

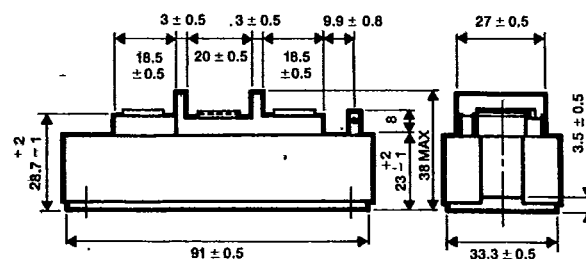
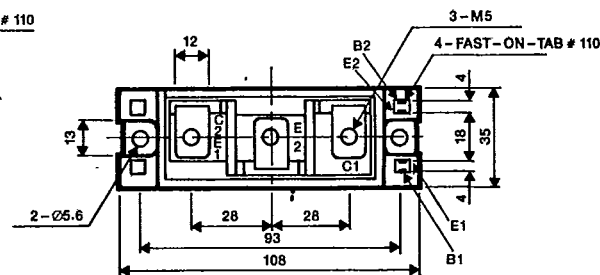
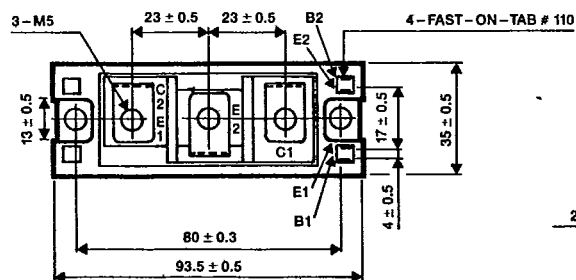


| Type       | Equiv. Circuit | V <sub>CBO</sub> (V) | V <sub>CEX(sus)</sub> (V) | V <sub>CEO(sus)</sub> (V) | V <sub>EBO</sub> (V) | I <sub>c</sub> (DC) (A) | I <sub>CP</sub> (A) (1msec) | I <sub>F</sub> (DC) (A) | I <sub>FM</sub> (A) (1msec) | I <sub>B</sub> (A) | P <sub>C</sub> (W) Tc 25°C | h <sub>FE</sub> min |
|------------|----------------|----------------------|---------------------------|---------------------------|----------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|--------------------|----------------------------|---------------------|
| MG15N2YK1  | 2              | 1100                 | 1100                      | 900                       | 7                    | 15                      | 30                          | 15                      | 30                          | 1.5                | 150                        | 100                 |
| MG25M2YK1  | 3              | 1000                 | 1000                      | 880                       | 7                    | 25                      | 50                          | 25                      | 50                          | 1.5                | 300                        | 100                 |
| MG25N2YK1  | 2              | 1100                 | 1100                      | 900                       | 7                    | 25                      | 50                          | 25                      | 50                          | 2.5                | 300                        | 100                 |
| MG30G2YL1  | 1              | 600                  | 600                       | 450                       | 6                    | 30                      | 60                          | 30                      | 60                          | 10                 | 350                        | 100                 |
| MG50G2YL1  | 1              | 600                  | 600                       | 450                       | 6                    | 50                      | 100                         | 50                      | 100                         | 5                  | 300                        | 100                 |
| MG50M2YK1  | 3              | 1000                 | 1000                      | 880                       | 7                    | 50                      | 100                         | 50                      | 100                         | 5                  | 350                        | 100                 |
| MG50N2YK1  | 3              | 1100                 | 1100                      | 900                       | 7                    | 50                      | 100                         | 50                      | 100                         | 5                  | 350                        | 100                 |
| MG50Q2YK1  | 3              | 1200                 | 1200                      | 900                       | 7                    | 50                      | 100                         | 50                      | 100                         | 5                  | 350                        | 100                 |
| MG75G2YL1  | 1              | 600                  | 600                       | 450                       | 6                    | 75                      | 150                         | 75                      | 150                         | 10                 | 350                        | 80                  |
| MG75M2YK1  | 4              | 1000                 | 1000                      | 880                       | 7                    | 75                      | 150                         | 75                      | 150                         | 5                  | 400                        | 100                 |
| MG75Q2YK1  | 2              | 1200                 | 1200                      | 900                       | 7                    | 75                      | 150                         | 75                      | 150                         | 10                 | 400                        | 100                 |
| MG100H2YL1 | 4              | 600                  | 600                       | 550                       | 7                    | 100                     | 200                         | 100                     | 200                         | 3                  | 400                        | 200                 |
| MG100M2YK1 | 5              | 1000                 | 1000                      | 880                       | 7                    | 100                     | 200                         | 100                     | 200                         | 10                 | 700                        | 100                 |
| MG100Q2YK1 | 5              | 1200                 | 1200                      | 900                       | 7                    | 100                     | 200                         | 100                     | 200                         | 10                 | 700                        | 100                 |
| MG150M2YK1 | 5              | 1000                 | 1000                      | 880                       | 7                    | 150                     | 300                         | 150                     | 300                         | 15                 | 800                        | 100                 |
| MG150Q2YK1 | 5              | 1200                 | 1200                      | 900                       | 7                    | 150                     | 300                         | 150                     | 300                         | 20                 | 800                        | 100                 |
| MG200M1UK1 | 6              | 1000                 | 1000                      | 880                       | 7                    | 200                     | 400                         | 200                     | 400                         | 20                 | 1400                       | 100                 |
| MG200Q1UK1 | 6              | 1200                 | 1200                      | 900                       | 7                    | 200                     | 400                         | 200                     | 400                         | 20                 | 1400                       | 100                 |
| MG300M1UK1 | 6              | 1000                 | 1000                      | 880                       | 7                    | 300                     | 600                         | 300                     | 600                         | 30                 | 1600                       | 100                 |
| MG300Q1UK1 | 6              | 1200                 | 1200                      | 900                       | 7                    | 300                     | 600                         | 300                     | 600                         | 30                 | 1600                       | 100                 |

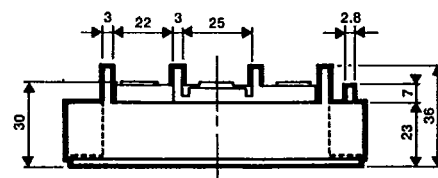
## All Types

Max. T<sub>J</sub> 150°C

Storage Temp. Range -40/+125°C

Isolation Voltage 2500V  
(AC 1 minute)h<sub>FE</sub> at I<sub>c</sub> = I<sub>c(DC)</sub>V<sub>CE</sub> = 5V T<sub>J</sub> 25°CV<sub>CE(sat)</sub> at I<sub>c</sub> = I<sub>c(DC)</sub>V<sub>BE(sat)</sub> I<sub>B</sub> = 0.02 I<sub>c</sub>T<sub>J</sub> = 25°C\*\*Screw Torque  
Terminal M4/M6 Mounting.

A



B

| $V_{CE(sat)}$<br>Max (V) | $V_{BE(sat)}$<br>Max (V) | $t_{on}(\mu s)$<br>Max | $t_s(\mu s)$<br>Max | $t_f(\mu s)$<br>Max | $V_F(V)$<br>Max | $t_{rr}(\mu s)$<br>Max | $R_{th}(f-s)$<br>$^{\circ}C/W$ max |       | Outline<br>Drawing | Screw Torque<br>Terminal Mount<br>Kg.cm |
|--------------------------|--------------------------|------------------------|---------------------|---------------------|-----------------|------------------------|------------------------------------|-------|--------------------|-----------------------------------------|
|                          |                          |                        |                     |                     |                 |                        | Transistor                         | Diode |                    |                                         |
| 2.5                      | 3.5                      | 2.0                    | 11.0                | 6.0                 | 1.5             | 1.0                    | 0.83                               | 1.3   | A                  | 20/30                                   |
| 2.5                      | 3.5                      | 2.0                    | 15.0                | 5.0                 | 1.7             | 1.0                    | 0.41                               | 1.3   | A                  | 20/30                                   |
| 2.5                      | 3.5                      | 2.0                    | 14.0                | 6.0                 | 1.7             | 1.0                    | 0.41                               | 1.3   | A                  | 20/30                                   |
| 2.0                      | 2.5                      | 1.0                    | 12.0                | 3.0                 | 1.6             | 1.0                    | 0.625                              | 1.8   | A                  | 20/30                                   |
| 2.0                      | 2.5                      | 1.0                    | 12.0                | 2.0                 | 1.7             | 2.0                    | 0.41                               | 1.3   | A                  | 20/30                                   |
| 2.5                      | 3.5                      | 2.0                    | 15.0                | 5.0                 | 1.7             | 1.0                    | 0.35                               | 1.3   | A                  | 20/30                                   |
| 2.5                      | 3.5                      | 2.0                    | 15.0                | 5.0                 | 1.7             | 1.0                    | 0.35                               | 1.3   | A                  | 20/30                                   |
| 2.5                      | 3.5                      | 3.0                    | 15.0                | 5.0                 | 1.8             | 1.0                    | 0.35                               | 1.3   | A                  | 20/30                                   |
| 2.0                      | 2.5                      | 2.0                    | 12.0                | 2.0                 | 1.7             | 2.0                    | 0.36                               | 1.3   | A                  | 20/30                                   |
| 2.5                      | 3.5                      | 2.0                    | 15.0                | 5.0                 | 1.8             | 1.0                    | 0.31                               | 1.3   | B                  | 20/30                                   |
| 2.5                      | 3.5                      | 3.0                    | 15.0                | 5.0                 | 1.8             | 1.0                    | 0.31                               | 1.3   | B                  | 20/30                                   |
| 2.5                      | 3.5                      | 2.0                    | 12.0                | 3.0                 | 1.8             | 0.7                    | 0.31                               | 1.3   | C                  | 30/30                                   |
| 2.5                      | 3.5                      | 2.0                    | 15.0                | 5.0                 | 1.8             | 1.0                    | 0.179                              | 0.65  | C                  | 30/30                                   |
| 2.5                      | 3.5                      | 3.0                    | 15.0                | 5.0                 | 1.8             | 1.0                    | 0.179                              | 0.65  | C                  | 30/30                                   |
| 2.5                      | 3.5                      | 2.0                    | 15.0                | 5.0                 | 1.8             | 1.0                    | 0.156                              | 0.65  | C                  | 30/30                                   |
| 2.5                      | 3.5                      | 3.0                    | 15.0                | 5.0                 | 1.8             | 1.0                    | 0.156                              | 0.65  | C                  | 30/30                                   |
| 2.5                      | 3.5                      | 2.0                    | 15.0                | 5.0                 | 1.8             | 1.0                    | 0.089                              | 0.325 | D                  | 20/30/30**                              |
| 2.5                      | 3.5                      | 4.0                    | 15.0                | 5.0                 | 1.8             | 1.0                    | 0.089                              | 0.325 | D                  | 20/30/30**                              |
| 2.5                      | 3.5                      | 2.0                    | 15.0                | 5.0                 | 1.8             | 1.0                    | 0.078                              | 0.325 | D                  | 20/30/30**                              |
| 2.5                      | 3.5                      | 4.0                    | 15.0                | 5.0                 | 1.8             | 1.0                    | 0.078                              | 0.325 | D                  | 20/30/30**                              |

