

Hitachi High-Power IGBT Modules

Status List

Date: Jul. 2005

M: Mass production W: Working sample A: Abolition

KS05013

High-Voltage High-Power Series

| Connection | Type | Absolute Maximum Ratings | | | Characteristics | | | | Outline | Status |
|-------------|--------------|--------------------------|-----------------------|-----------------------|---------------------------------|-----------------------------|------------------------------|----------------------------|---------|--------|
| | | V _{CES} (V) | I _C (A) | P _C (W) | V _{CE(sat)} (V)Typ. | t _{on} (μs)Max. | t _{off} (μs)Max. | t _r (μs)Max. | | |
| Single | MBN900D45A | 4,500 | 900 | - | 5.5 | 2.2 | 3.6 | 1.6 | N - 1 | M |
| | MBN800E33D | 3,300 | 800 | - | 4.2 | 2.4 | 3.0 | 1.9 | N - 10 | M |
| | MBN1200E33D | 3,300 | 1,200 | 11,500 | 4.2 | 3.3 | 5.1 | 2.5 | N - 9 | M |
| | MBN1200D33C | 3,300 | 1,200 | 12,000 | 4.8 | 3.8 | 5.6 | 3.2 | N - 1 | M |
| | MBN600C33A | 3,300 | 600 | 5,800 | 4.5 | 4.0 | 6.0 | 3.2 | N - 2 | M |
| | MBN400C33A | 3,300 | 400 | 4,000 | 4.5 | 3.2 | 5.3 | 2.8 | N - 3 | M |
| | MBN1200E25C | 2,500 | 1,200 | 12,000 | 2.9 | 4.2 | 6.4 | 3.2 | N - 9 | M |
| | MBN600D20 | 2,000 | 600 | 4,000 | 4.4 | 2.5 | 5.9 | 2.7 | N - 3 | M |
| | MBN400D20 | 2,000 | 400 | 3,000 | 4.2 | 2.6 | 5.9 | 2.4 | N - 4 | M |
| | MBN1200E17D | 1,700 | 1,200 | - | 2.7 | 0.9 | 1.4 | 0.6 | N - 10 | M |
| | MBN1600E17D | 1,700 | 1,600 | - | 2.7 | 1.2 | 1.9 | 0.7 | N - 10 | M |
| | MBN1600EB17D | 1,700 | 1,600 | - | 2.7 | 1.2 | 1.9 | 0.7 | N - 11 | M |
| | MBN1800E17D | 1,700 | 1,800 | - | 2.7 | 1.2 | 1.5 | 0.7 | N - 9 | M |
| MBN2400E17D | 1,700 | 2,400 | - | 2.7 | 1.6 | 2.0 | 1.1 | N - 9 | W | |
| Chopper | MBL800D33C | 3,300 | 800 | 8,000 | 4.1 | 3.8 | 5.6 | 1.4 | N - 1 | M |
| | MBL800E33D | 3,300 | 800 | - | 4.2 | 2.4 | 3.0 | 1.9 | N - 9 | W |
| | MBL1200E17D | 1,700 | 1,200 | - | 2.7 | 1.6 | 1.7 | 0.9 | N - 10 | M |

| Connection | Type | V _{RRM} (V) | I _F (A) | - | V _F (V)Typ. | - | - | t _r (μs)Max. | Outline | Status |
|------------|------------|-------------------------|-----------------------|---|---------------------------|---|---|----------------------------|---------|--------|
| Diode | MDN1200D33 | 3,300 | 1,200 | - | 3.2 | - | - | 0.8 | N - 3 | M |
| | MDM800E33D | 3,300 | 800 | - | 2.0 | - | - | 0.6 | M - 10 | M |

Status List

Continue

GR - A Series (Advanced GR Series)

| Connection | Type | Absolute Maximum Ratings | | | Characteristics | | | | Outline | Status |
|------------|--------------|--------------------------|-----------------------|-----------------------|---------------------------------|-----------------------------|------------------------------|----------------------------|---------|----------|
| | | V _{CES} (V) | I _c (A) | P _c (W) | V _{CE(sat)} (V)Typ. | t _{on} (μs)Max. | t _{off} (μs)Max. | t _f (μs)Max. | | |
| Single | MBN1200GR12A | 1,200 | 1,200 | 8,330 | 2.4 | 2.1 | 1.8 | 0.4 | N - 7 | M |
| | MBN600GR12A | 1,200 | 600 | 3,790 | 2.2 | 0.8 | 1.2 | 0.35 | N - 6 | M |
| | MBN400GR12A | 1,200 | 400 | 2,500 | 2.2 | 0.7 | 1.1 | 0.3 | N - 5 | M |
| Dual | MBM300GR12A | 1,200 | 300 | 1,980 | 2.2 | 0.7 | 1.1 | 0.3 | M - 9 | M |
| | MBM200GR12A | 1,200 | 200 | 1,250 | 2.2 | 0.6 | 1.0 | 0.3 | M - 8 | M |
| | MBM150GR12A | 1,200 | 150 | 1,000 | 2.2 | 0.6 | 1.0 | 0.3 | M - 8 | M |
| | MBM100GR12A | 1,200 | 100 | 690 | 2.2 | 0.6 | 1.0 | 0.3 | M - 8 | M |

GR Series

| Connection | Type | Absolute Maximum Ratings | | | Characteristics | | | | Outline | Status |
|------------|-----------|--------------------------|-----------------------|-----------------------|---------------------------------|-----------------------------|------------------------------|----------------------------|---------|----------|
| | | V _{CES} (V) | I _c (A) | P _c (W) | V _{CE(sat)} (V)Typ. | t _{on} (μs)Max. | t _{off} (μs)Max. | t _f (μs)Max. | | |
| Dual | MBM400GR6 | 600 | 400 | 1,170 | 2.1 | 0.7 | 1.1 | 0.32 | M - 3 | M |
| | MBM200GR6 | 600 | 200 | 690 | 2.1 | 0.7 | 0.8 | 0.3 | M - 8 | M |

GS Series

| Connection | Type | Absolute Maximum Ratings | | | Characteristics | | | | Outline | Status |
|------------|-------------|--------------------------|-----------------------|-----------------------|---------------------------------|-----------------------------|------------------------------|----------------------------|---------|----------|
| | | V _{CES} (V) | I _c (A) | P _c (W) | V _{CE(sat)} (V)Typ. | t _{on} (μs)Max. | t _{off} (μs)Max. | t _f (μs)Max. | | |
| Dual | MBM600GS6CW | 600 | 600 | 1,700 | 1.9 | 0.8 | 1.1 | 0.4 | M - 7 | M |
| | MBM400GS6AW | 600 | 400 | 1,000 | 1.9 | 0.7 | 1.1 | 0.35 | M - 1 | M |
| | MBM400JS6AW | 600 | 400 | 1,470 | 1.9 | 0.7 | 1.1 | 0.35 | M - 3 | M |
| | MBM300GS6AW | 600 | 300 | 800 | 1.9 | 0.7 | 1.1 | 0.35 | M - 1 | M |
| | MBM200GS6AW | 600 | 200 | 600 | 1.9 | 0.6 | 0.9 | 0.35 | M - 6 | M |
| | MBM150GS6AW | 600 | 150 | 450 | 1.9 | 0.6 | 0.9 | 0.35 | M - 6 | M |

Status List

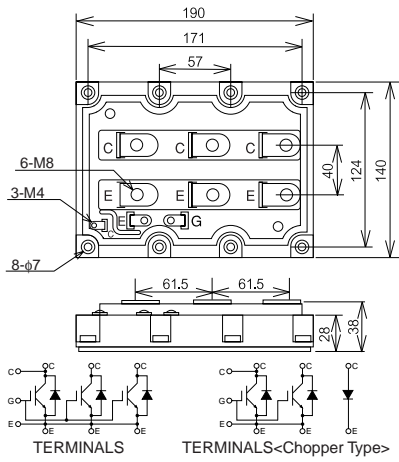
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Abolition

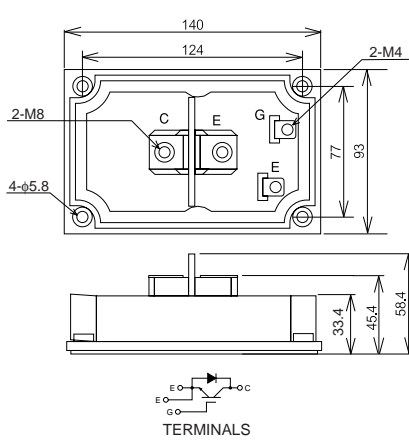
| Connection | Type | Absolute Maximum Ratings | | | Characteristics | | | | Outline | Status |
|--------------|---------------|--------------------------|-----------------------|-----------------------|---------------------------------|-----------------------------|------------------------------|----------------------------|---------|--------|
| | | V _{CES} (V) | I _C (A) | P _C (W) | V _{CE(sat)} (V)Typ. | t _{on} (μs)Max. | t _{off} (μs)Max. | t _r (μs)Max. | | |
| Single | MBN1200D33A | 3,300 | 1,200 | 12,000 | 4.1 | 3.2 | 5.6 | 3.2 | N - 1 | A |
| | MBN600C20 | 2,000 | 600 | 4,000 | 4.4 | 2.5 | 5.9 | 2.7 | N - 3 | A |
| | MBN400C20 | 2,000 | 400 | 3,000 | 4.2 | 2.6 | 5.9 | 2.4 | N - 4 | A |
| | MBN600GR12 | 1,200 | 600 | 3,570 | 2.2 | 1.0 | 1.2 | 0.4 | N - 6 | A |
| | MBN400GR12 | 1,200 | 400 | 2,080 | 2.2 | 0.9 | 1.1 | 0.35 | N - 5 | A |
| | MBN1200GS12AW | 1,200 | 1,200 | 5,600 | 2.9 | 2.2 | 1.6 | 0.55 | N - 7 | A |
| | MBN600GS12AW | 1,200 | 600 | 3,100 | 2.7 | 0.8 | 1.2 | 0.4 | N - 6 | A |
| | MBN400GS12AW | 1,200 | 400 | 2,000 | 2.7 | 0.7 | 1.1 | 0.35 | N - 5 | A |
| | MBN400GS12BW | 1,200 | 400 | 2,000 | 2.7 | 0.7 | 1.1 | 0.35 | N - 5 | A |
| MBN300GS12AW | 1,200 | 300 | 1,700 | 2.7 | 0.7 | 1.1 | 0.35 | N - 5 | A | |
| Chopper | MBL800D33B | 3,300 | 800 | 8,000 | 4.1 | 3.3 | 5.0 | 2.7 | N - 1 | A |
| Dual | MBM300GR12 | 1,200 | 300 | 1,710 | 2.2 | 0.9 | 1.1 | 0.35 | M - 9 | A |
| | MBM200GR12 | 1,200 | 200 | 1,130 | 2.2 | 0.8 | 1.0 | 0.35 | M - 8 | A |
| | MBM150GR12 | 1,200 | 150 | 830 | 2.2 | 0.8 | 1.0 | 0.35 | M - 8 | A |
| | MBM100GR12 | 1,200 | 100 | 590 | 2.2 | 0.8 | 0.9 | 0.35 | M - 8 | A |
| | MBM300GR6 | 600 | 300 | 930 | 2.1 | 0.7 | 1.0 | 0.32 | M - 8 | A |
| | MBM150GR6 | 600 | 150 | 520 | 2.1 | 0.7 | 0.8 | 0.3 | M - 8 | A |
| | MBM300GS12AW | 1,200 | 300 | 1,700 | 2.7 | 0.7 | 1.1 | 0.35 | M - 4 | A |
| | MBM200GS12AW | 1,200 | 200 | 1,000 | 2.7 | 0.55 | 1.0 | 0.35 | M - 1 | A |
| | MBM200JS12AW | 1,200 | 200 | 1,470 | 2.7 | 0.55 | 1.0 | 0.35 | M - 3 | A |
| | MBM200JS12EW | 1,200 | 200 | 1,470 | 2.7 | 0.55 | 1.0 | 0.35 | M - 2 | A |
| | MBM150GS12AW | 1,200 | 150 | 800 | 2.7 | 0.55 | 1.0 | 0.35 | M - 1 | A |
| | MBM100GS12AW | 1,200 | 100 | 600 | 2.7 | 0.55 | 0.9 | 0.35 | M - 6 | A |
| MBM75GS12AW | 1,200 | 75 | 450 | 2.7 | 0.55 | 0.9 | 0.35 | M - 6 | A | |
| Six - Pack | MBB200GS6AW | 600 | 200 | 600 | 1.9 | 0.6 | 0.9 | 0.35 | B - 1 | A |
| | MBB100GS12AW | 1,200 | 100 | 600 | 2.7 | 0.55 | 0.9 | 0.35 | B - 1 | A |
| | MBB75GS12AW | 1,200 | 75 | 450 | 2.7 | 0.55 | 0.9 | 0.35 | B - 1 | A |

Outline

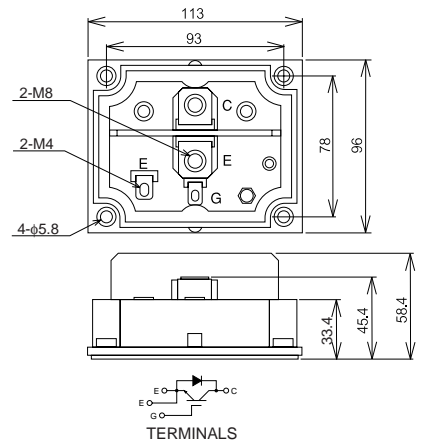
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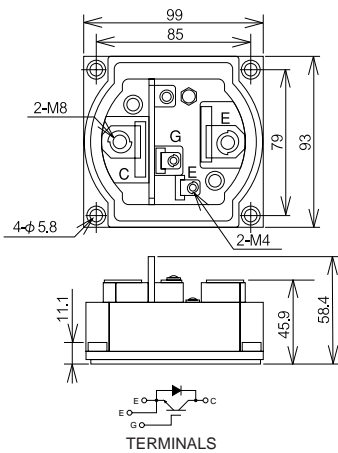
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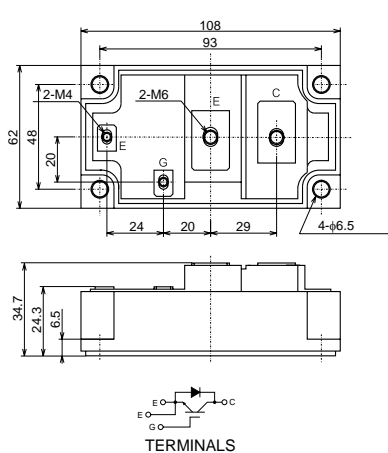
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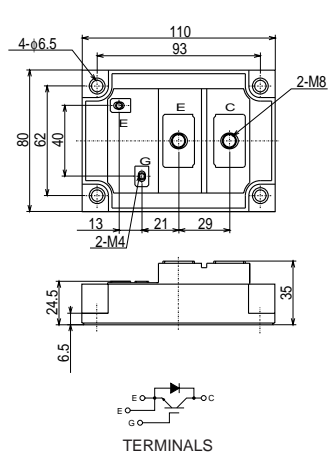
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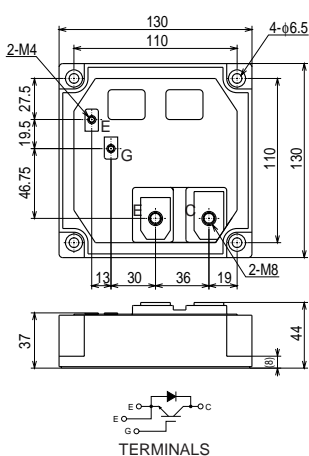
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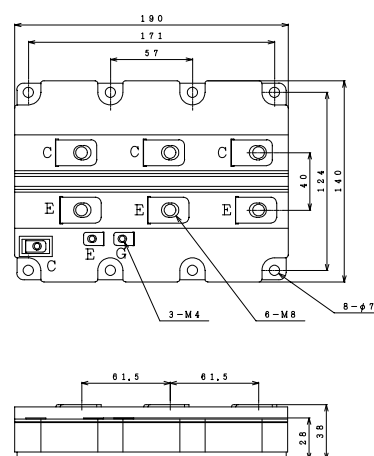
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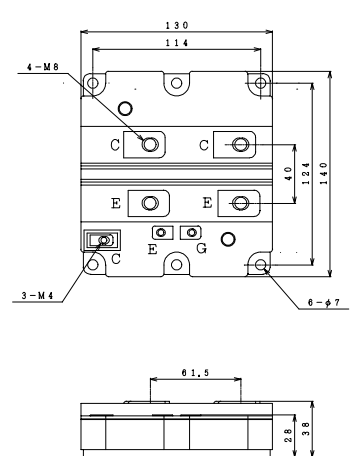
N - 7



N - 9



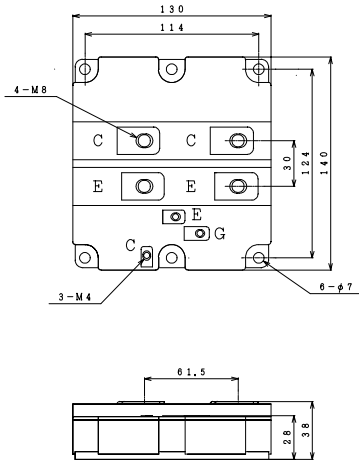
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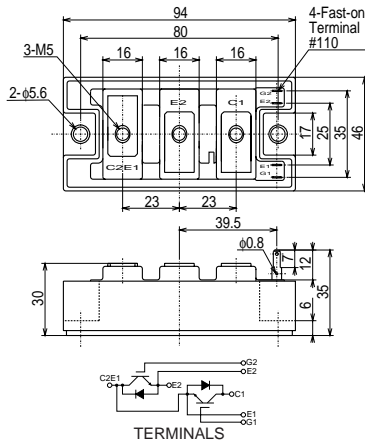
Outline

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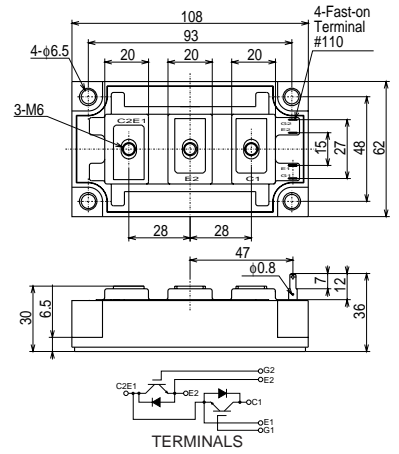
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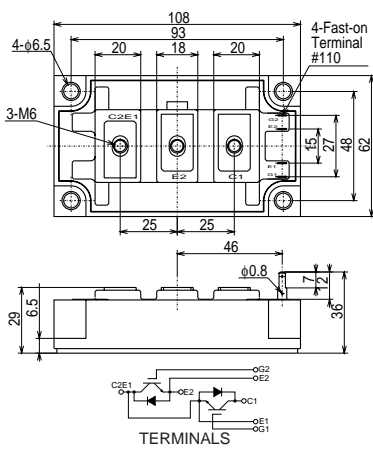
M - 1



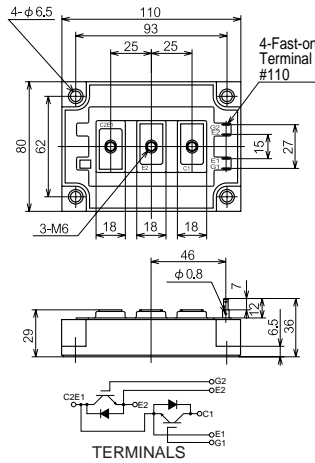
M - 2



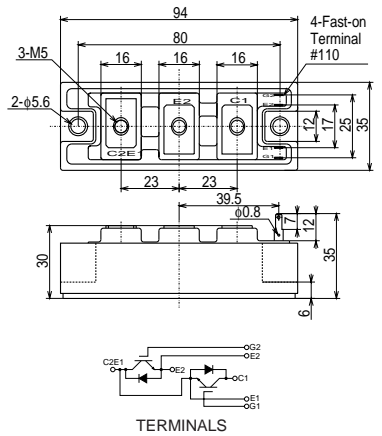
M - 3



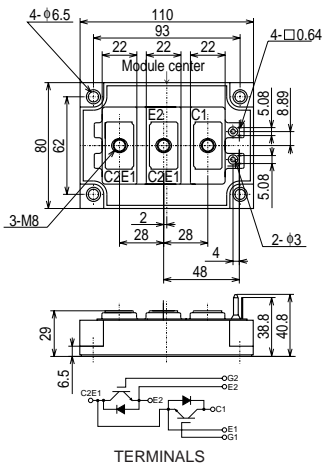
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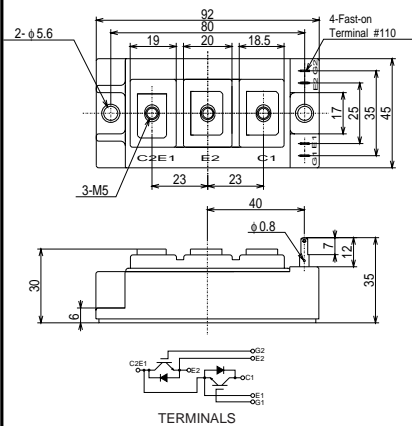
M - 6



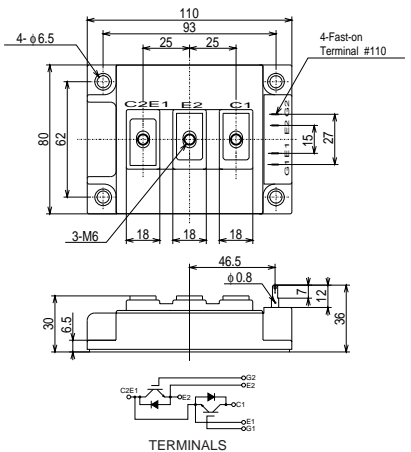
M - 7



M - 8



M - 9



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