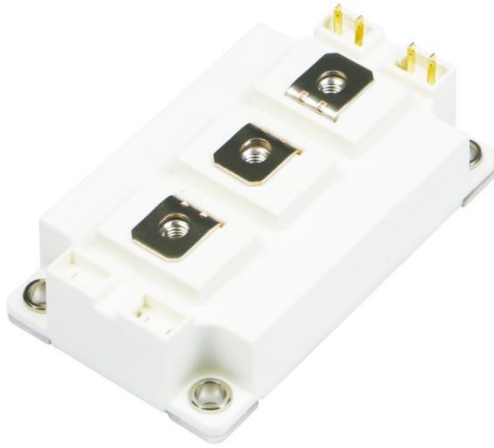




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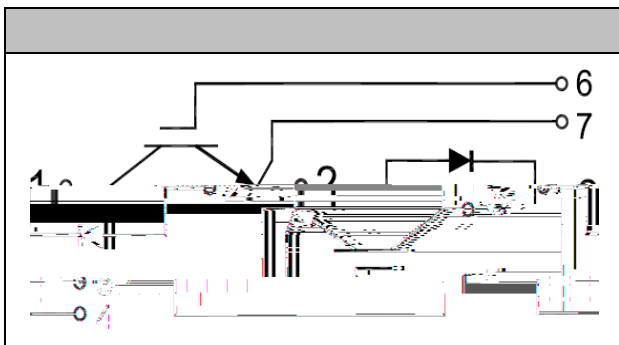


IGBT Modules

| | |
|-----------|-------|
| V_{CES} | 1200V |
| I_c | 200A |

Applications

- High frequency drivers
- Solar inverters
- UPS (Uninterruptible Power Supplies)
- Electric welding machine



Features

- High speed IGBT in NPT technology
- Low switching losses
- High short circuit capability(10us)
- Including ultra fast & soft recovery anti-parallel FWD
- Low inductance
- Maximum junction temperature 150

● IGBT

Absolute Maximum Ratings

| Parameter | Symbol | Conditions | Value | Unit |
|-----------------------------------|-----------|----------------------------------|-------|------|
| Collector-Emitter Voltage | V_{CES} | $V_{GE}=0V, I_c =1mA, T_{vj}=25$ | 1200 | V |
| Continuous Collector Current | I_c | $T_c=80$ | 200 | A |
| Repetitive Peak Collector Current | I_{CRM} | $t_p=1ms$ | 400 | A |
| Gate-Emitter Voltage | V_{GES} | $T_{vj}=25$ | 20 | V |
| Total Power Dissipation | P_{tot} | $T_c=25$ $T_{vjmax}=150$ | 1358 | W |

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Characteristic values

| Parameter | Symbol | Conditions | Value | | | Unit |
|--------------------------------------|---------------|--------------------------------------|-------|------|------|------------|
| | | | Min. | Typ. | Max. | |
| Gate-emitter Threshold Voltage | $V_{GE(th)}$ | $V_{GE}=V_{CE}, I_C=8mA, T_{vj}=25$ | 5.0 | 5.8 | 6.5 | V |
| Collector-Emitter Cut-off Current | I_{CES} | $V_{CE}=1200V, V_{GE}=0V, T_{vj}=25$ | | | 1.0 | mA |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=200A, V_{GE}=15V, T_{vj}=25$ | | 3.0 | 3.5 | V |
| | | $I_C=200A, V_{GE}=15V, T_{vj}=125$ | | | | |
| Gate Charge | Q_G | | | 2.0 | | 200 |
| Input Capacitance | C_{ies} | $V_{CE}=250V, V_{GE}=0V,$ | | 13.2 | | nF |
| Reverse Transfer Capacitance | C_{res} | $f=1MHz, T_{vj}=25$ | | 0.8 | | nF |

Gate

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● Diode

Absolute Maximum Ratings

| Parameter | Symbol | Conditions | Value | Unit |
|---------------------------------|-----------|------------------|-------|------|
| Repetitive Peak Reverse Voltage | V_{RRM} | $T_{vj}=25$ | 1200 | V |
| Continuous DC Forward Current | I_F | | 200 | A |
| Repetitive Peak Forward Current | I_{FRM} | $t_p=1\text{ms}$ | 400 | A |

Characteristic values

| Parameter | Symbol | Conditions | Value | | | Unit |
|-------------------------------|-----------|--|-------|------|------|---------------|
| | | | Min. | Typ. | Max. | |
| Forward Voltage | V_F | $I_F=200\text{A}, T_{vj}=25$ | | 1.90 | 2.3 | V |
| | | $I_F=200\text{A}, T_{vj}=125$ | | 1.95 | | |
| Recovered Charge | Q_{rr} | $I_F=200\text{A}$ | | 11.5 | | μC |
| Peak Reverse Recovery Current | I_{rr} | $V_R=600\text{V}$ $-di_F/dt=2500\text{A}/\mu\text{s}$ | | 105 | | A |
| Reverse Recovery Energy | E_{rec} | $T_{vj}=25$ | | 6.8 | | mJ |
| Recovered Charge | Q_{rr} | $I_F=200\text{A}$ | | 20.8 | | μC |
| Peak Reverse Recovery Current | I_{rr} | $V_R=600\text{V}$ $-di_F/dt=2500\text{A}/\mu\text{s}$ | | 124 | | A |
| Reverse Recovery Energy | E_{rec} | $T_{vj}=125$ | | 13.8 | | mJ |

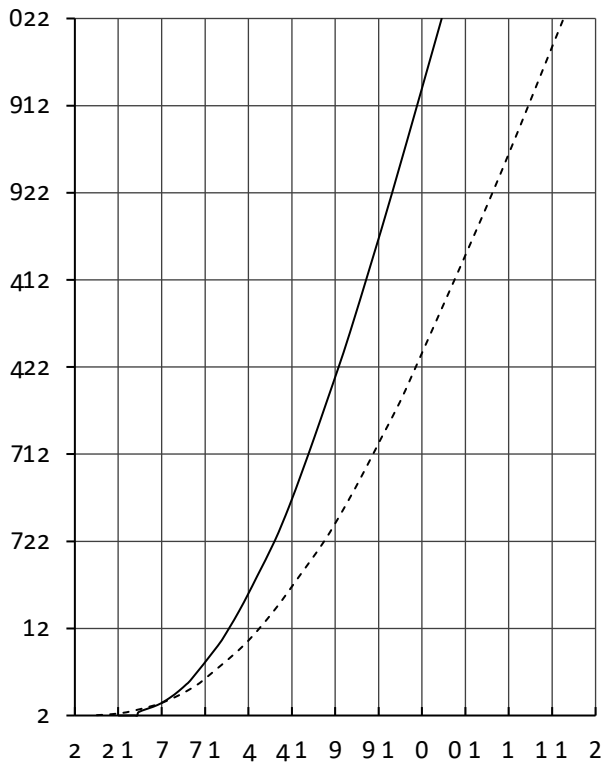
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● Module Characteristics $T_C=25^\circ\text{C}$ unless otherwise specified

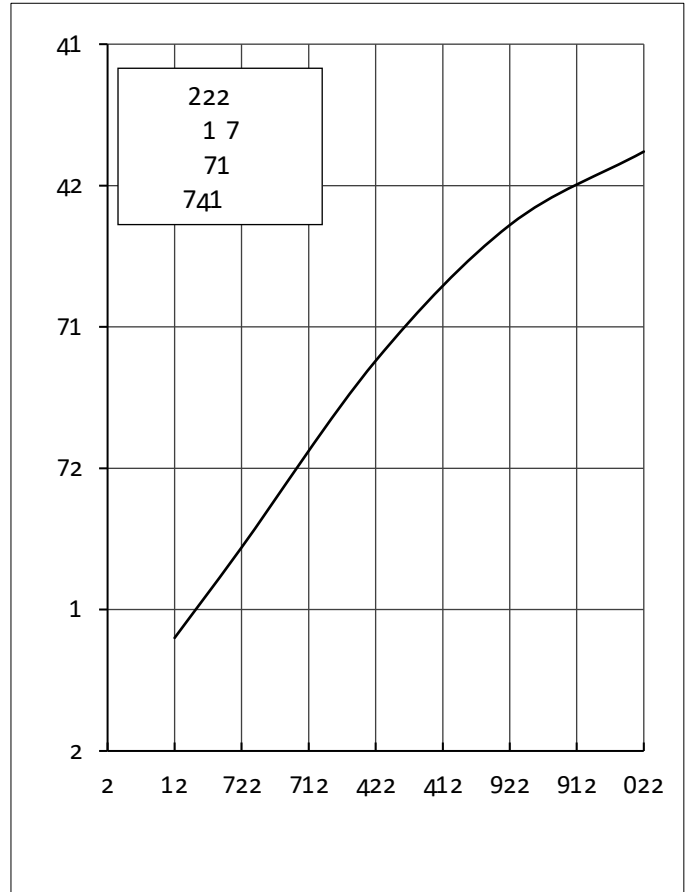
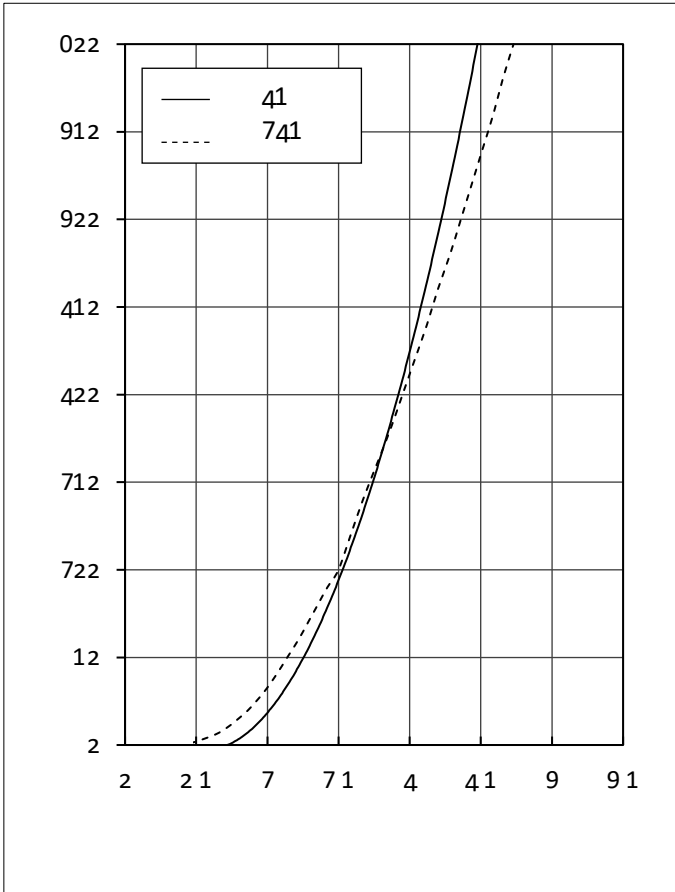
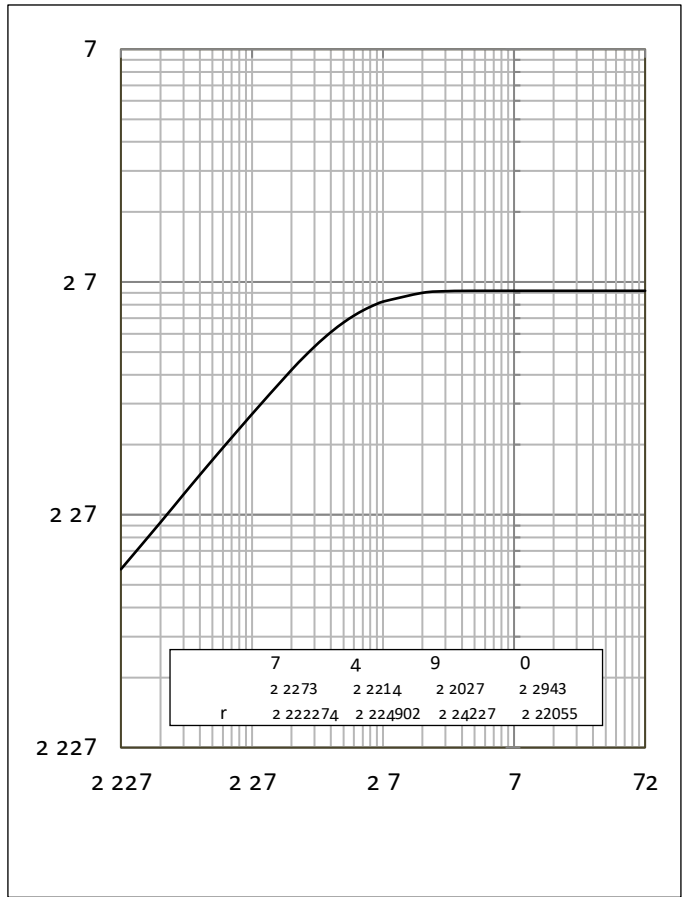
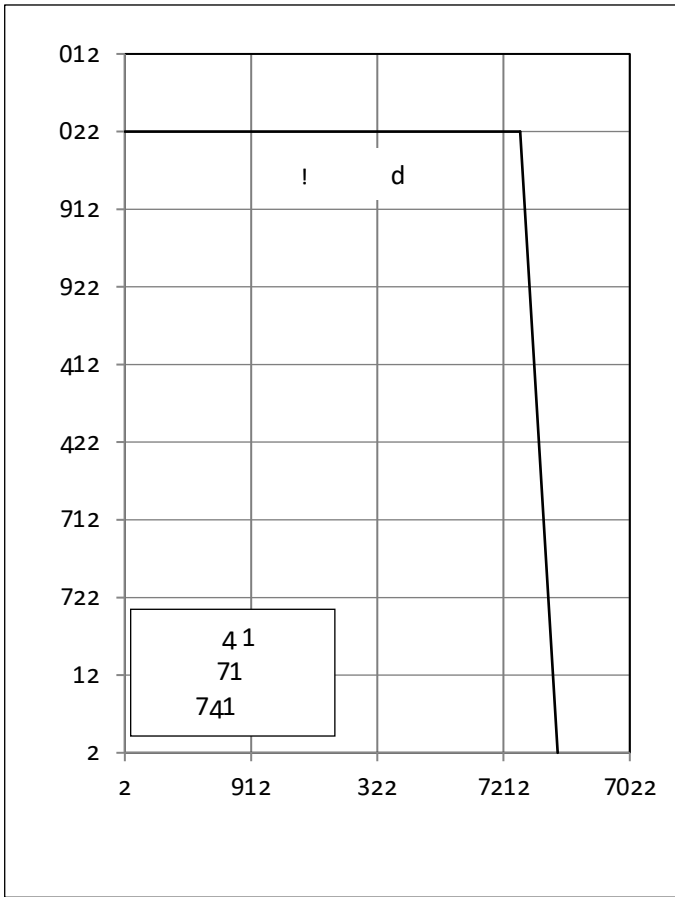
| Parameter | Symbol | Conditions | Value | | | Unit |
|--|-------------------|--------------------------------|-------|------|------|------|
| | | | Min. | Typ. | Max. | |
| Isolation voltage | V_{isol} | $t=1\text{min}, f=50\text{Hz}$ | 2500 | | | V |
| Maximum Junction Temperature | T_{jmax} | | | | 150 | |
| Operating Junction Temperature | T_{vjop} | | -40 | | 125 | |
| Storage Temperature | T_{stg} | | -40 | | 125 | |
| Thermal Resistance Junction-to Case | R_{JC} | per IGBT | | | 0.09 | K/W |
| | | per Diode | | | 0.19 | |



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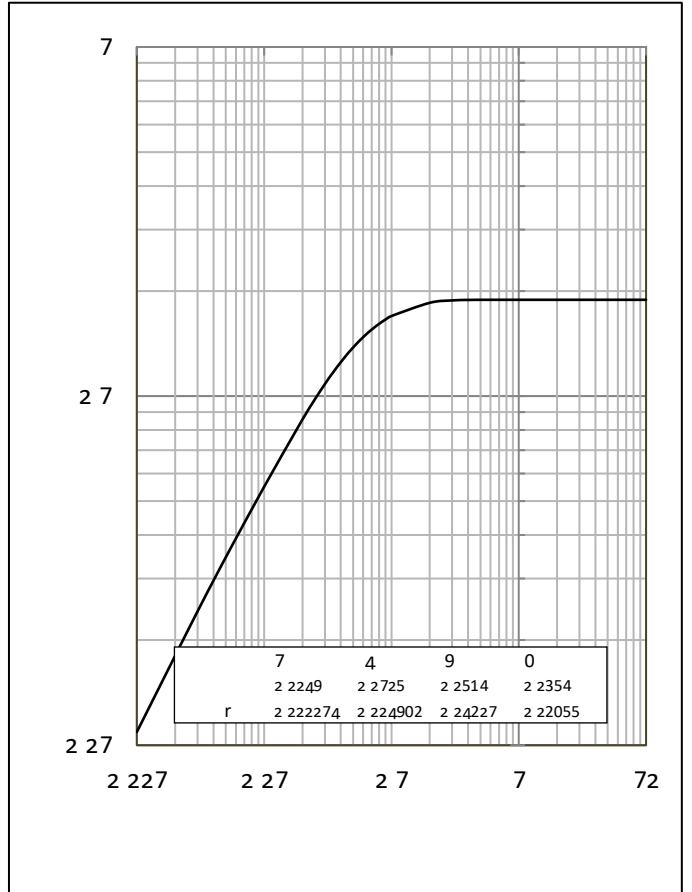
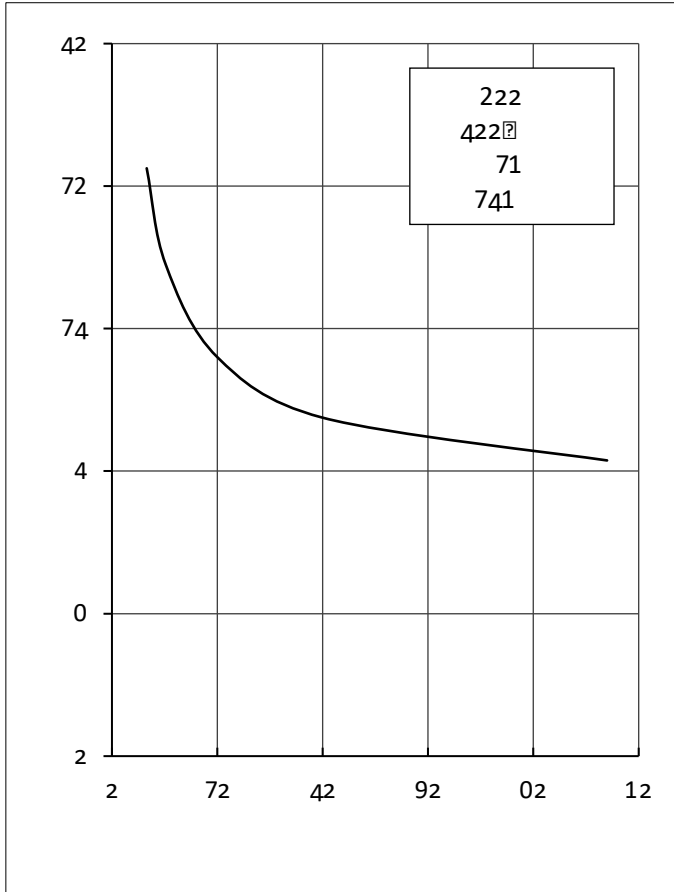


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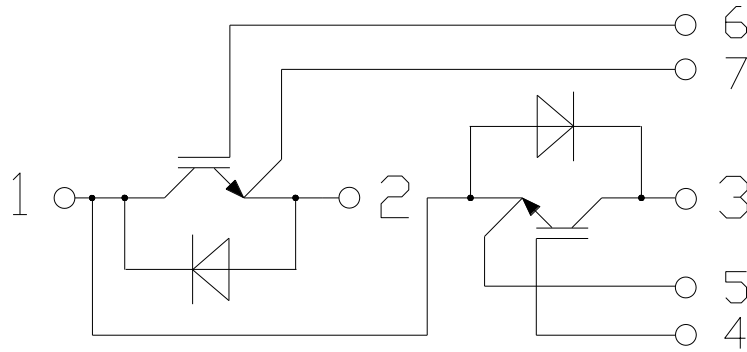
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● Circuit Diagram



● Package Outline Information

Dimensions in Millimeters

