

D120LC40

400V 120A

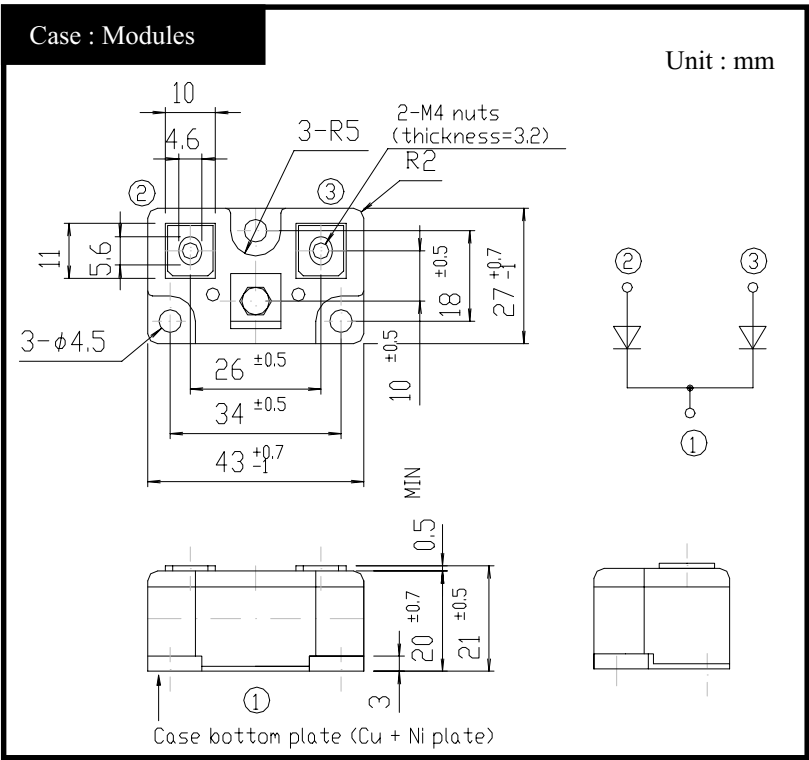
FEATURES

- High current capacity
- trr100ns
- Small  $\theta_{jc}$

APPLICATION

- Semiconductor Production Equipment
- Big Power Supply
- Factory Automation, Robot

OUTLINE DIMENSIONS



RATINGS

● Absolute Maximum Ratings (If not specified  $T_c=25^{\circ}\text{C}$ )

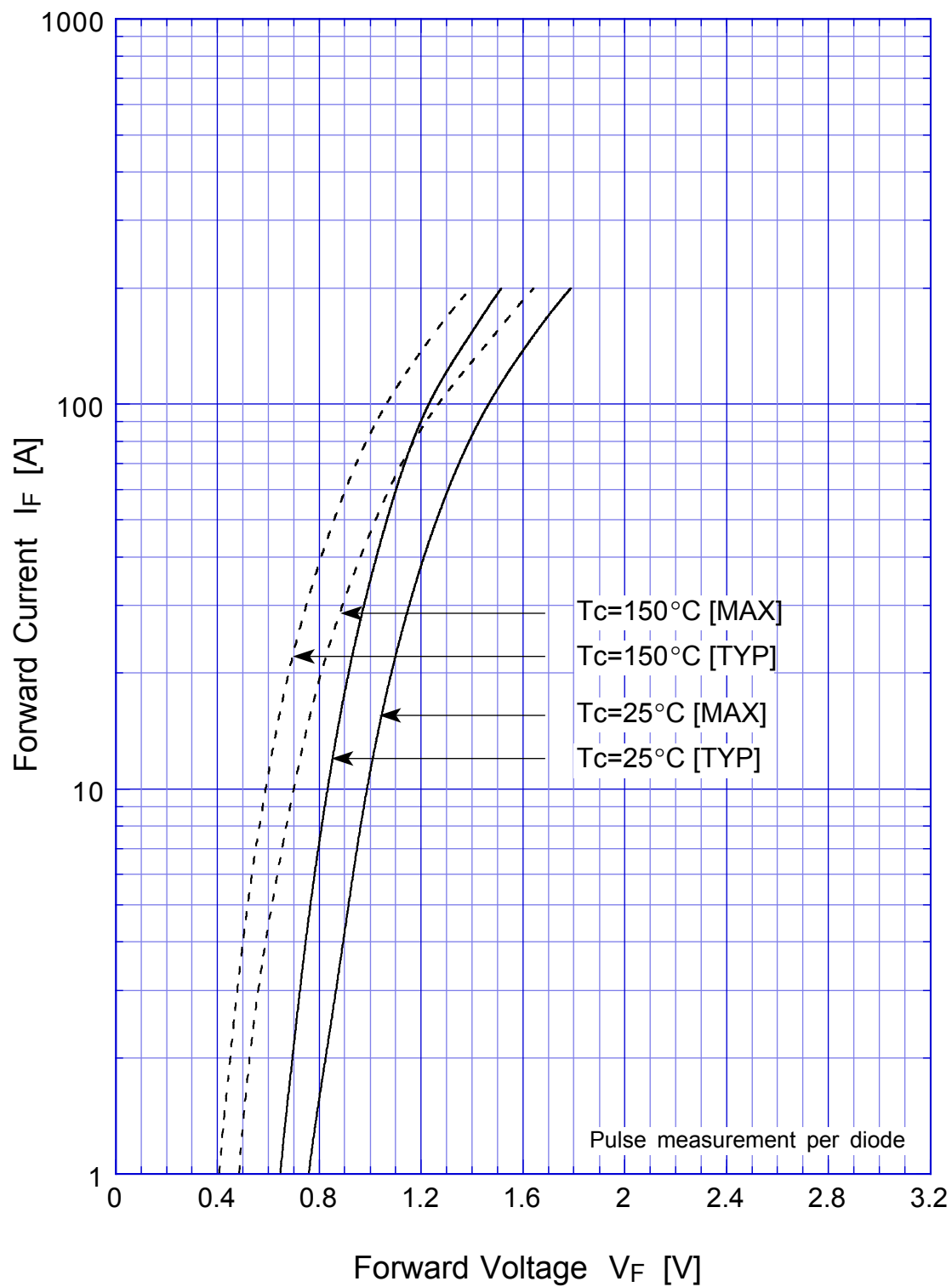
| Item                              | Symbol    | Conditions                                                                                   | Ratings | Unit               |
|-----------------------------------|-----------|----------------------------------------------------------------------------------------------|---------|--------------------|
| Storage Temperature               | $T_{stg}$ |                                                                                              | -40~150 | $^{\circ}\text{C}$ |
| Operating Junction Temperature    | $T_j$     |                                                                                              | 150     | $^{\circ}\text{C}$ |
| Maximum Reverse Voltage           | $V_{RM}$  |                                                                                              | 400     | V                  |
| Average Rectified Forward Current | $I_O$     | 50Hz sine wave, R-load, Rating for each arm $I_o/2$ , $T_c=95^{\circ}\text{C}$               | 120     | A                  |
| Peak Surge Forward Current        | $I_{FSM}$ | 50Hz sine wave, Non-repetitive 1cycle peak value, Rating of per arm $T_j=25^{\circ}\text{C}$ | 650     | A                  |
| Mounting Torque                   | TOR       |                                                                                              | 1.7     | N·m                |

● Electrical Characteristics (If not specified  $T_c=25^{\circ}\text{C}$ )

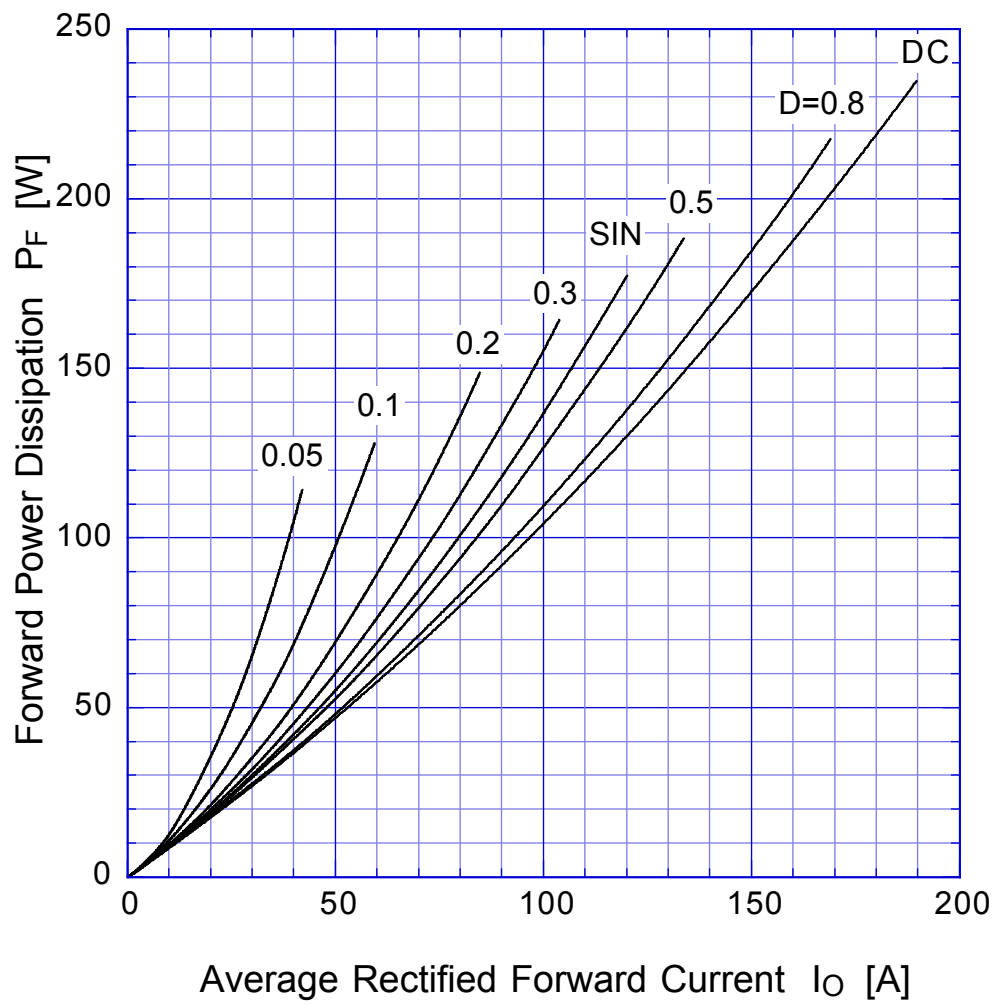
| Item                  | Symbol        | Conditions                                              | Ratings  | Unit                        |
|-----------------------|---------------|---------------------------------------------------------|----------|-----------------------------|
| Forward Voltage       | $V_F$         | $I_F=60\text{A}$ , Pulse measurement, Rating of per arm | Max.1.3  | V                           |
| Reverse Current       | $I_R$         | $V_R=V_{RM}$ , Pulse measurement, Rating of per arm     | Max.25   | $\mu\text{A}$               |
| Reverse Recovery Time | trr           | $I_F=0.5\text{A}$ , $I_R=1\text{A}$ , Rating of per arm | Max.100  | ns                          |
| Thermal Resistance    | $\theta_{jc}$ | junction to case                                        | Max.0.31 | $^{\circ}\text{C}/\text{W}$ |

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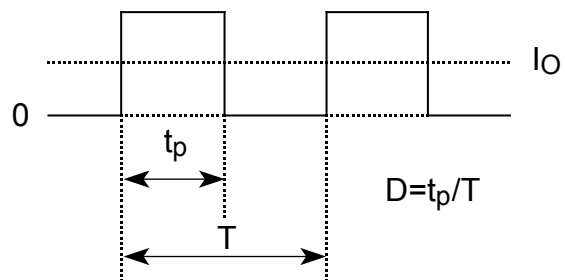
## Forward Voltage



## D120LC40 Forward Power Dissipation

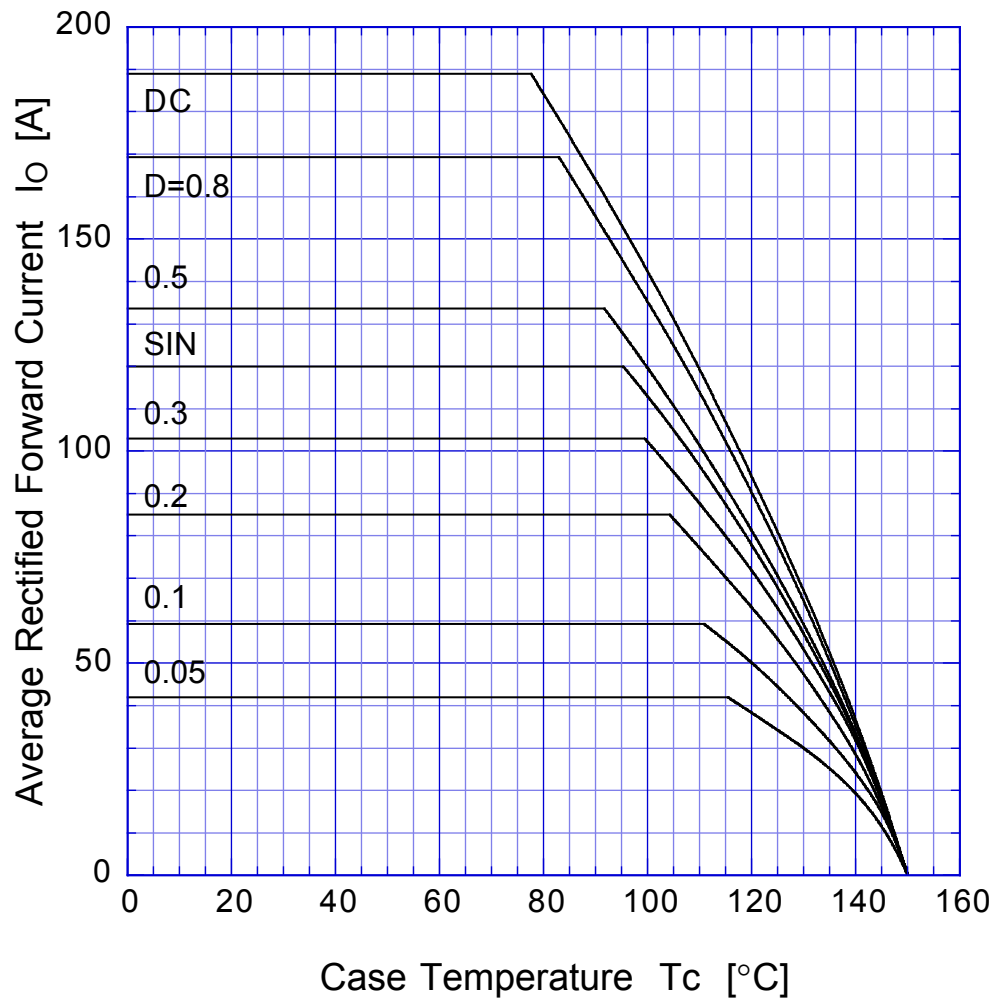


$T_j = T_{jmax}$

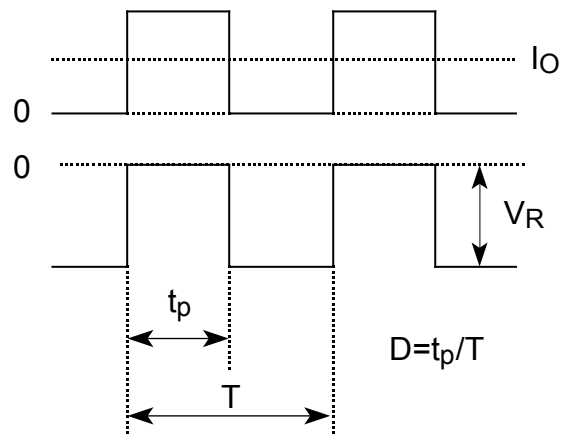


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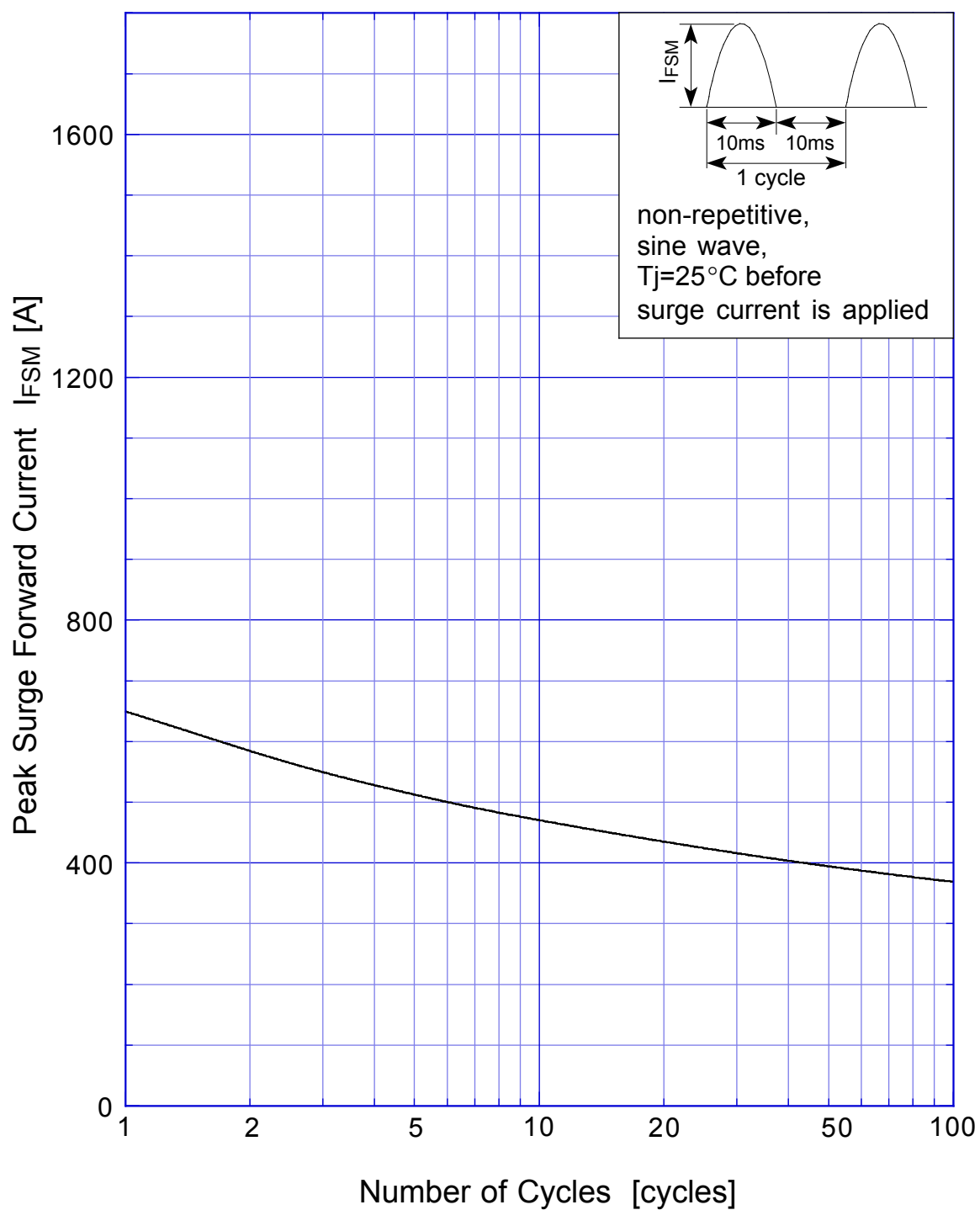
## Derating Curve



$$V_R = V_{RM}$$



## D120LC40 Peak Surge Forward Capability



# D120LC40 Junction Capacitance

