

## RECTIFIER DIODE

### Features

1. 20D series Diodes are designed for various power controls
2. Voltage rating up to 1600V

### Typical Applications

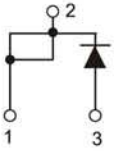
- AC/DC Converters
- Supplies for DC power equipment
- Field supply for DC motors
- Machine tool controls
- DC supply for PWM inverter

### Ordering code

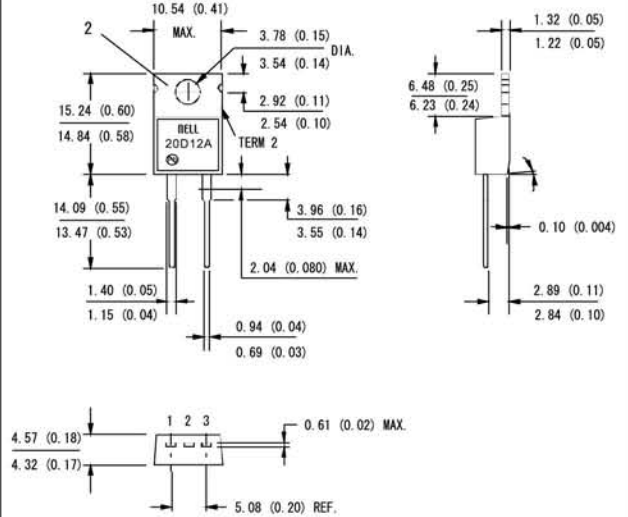
**20** **D** **12** **A**

(1) (2) (3) (4)

- (1) Max.  $I_{RMS}$  on-state current
- (2) D-for standard recovery diodes
- (3) Voltage code, code x 100 =  $V_{RRM}/V_{DRM}$
- (4) For case style A=TO-220AB, B=TO-P3



### Case Style



All dimensions in millimeters(inches)

### Electrical Characteristics

Symbol	Parameter	Condition	Value	Unit
$I_F(AV)$	Maximum average forward current	180° conduction, half sine wave $T_C=110^\circ C$	20	A
$V_{RRM}$	Repetitive peak reverse voltage	$t_p=10\text{ ms } V_{RMS} = V_{RRM} \times 1.1$	800 to 1600	V
$I_{FSM}$	Surge forward current	10ms Sine pulse no voltage reapplied	300	A
$I^2_t$	$I^2_t$ for fusing		442	A <sup>2</sup> S
$V_{FM}$	Peak forward voltage	@20A, $T_j=25^\circ C$	1.1	V
$r_t$	Forward slope resistance	$T_j=150^\circ C$	10.4	mΩ
$V_{F(TO)}$	Threshold Voltage		0.85	V
$T_j$	Max.operation temperaturerange		-40 to 150	°C
$T_{stg}$	Storage temperature range		-40 to 150	°C
$R_{th(j-c)}$	Thermal resistance ( junction to case )	DC operation	1.5	°C/W
$w_t$	Approximate weight		2	g
T	Mounting torque	Not lubricated threads	6-12	kg-cm

Fig. 1 - Current Rating Characteristics

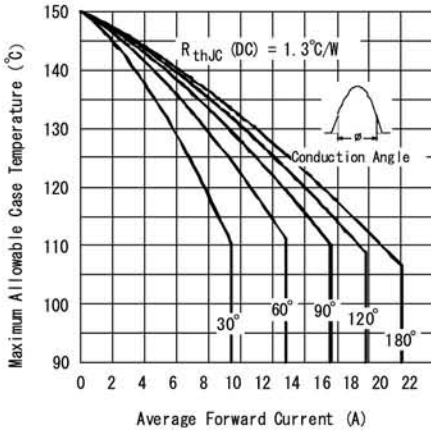


Fig. 2 - Current Rating Characteristics

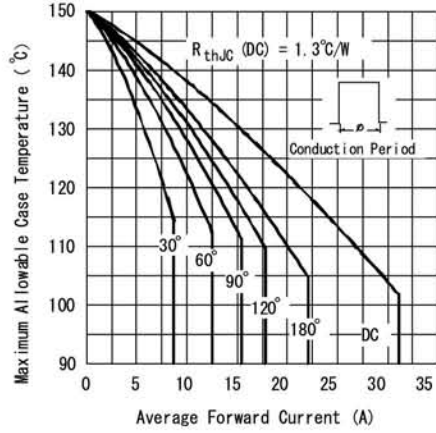


Fig. 3 - Forward Power Loss Characteristics

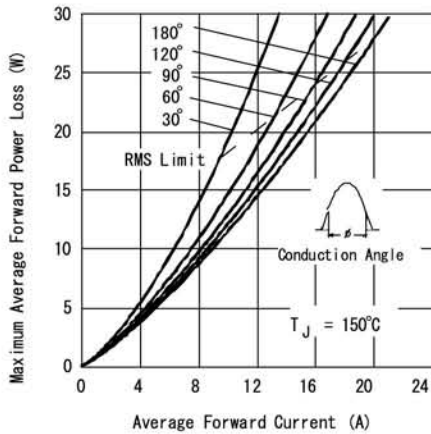


Fig. 4 - Forward Power Loss Characteristics

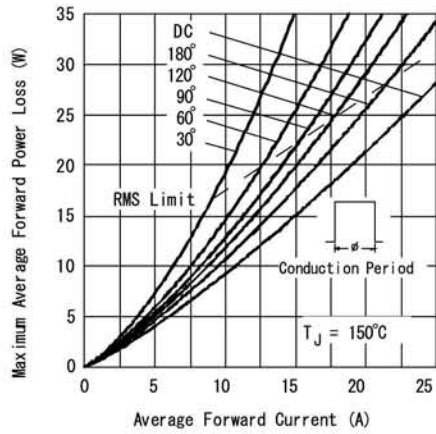


Fig. 5 - Maximum Non-Repetitive Surge Current

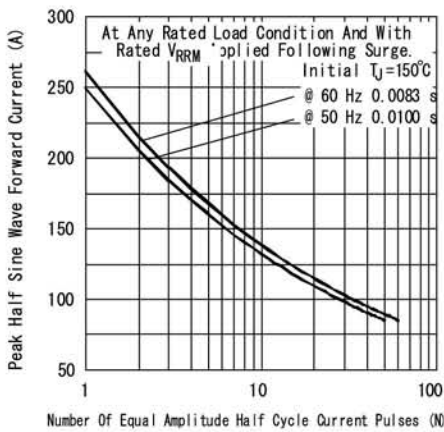


Fig. 6 - Maximum Non-Repetitive Surge Current

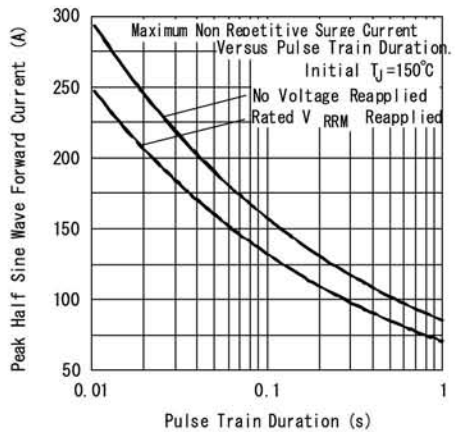


Fig. 7 – Forward Voltage Drop Characteristics

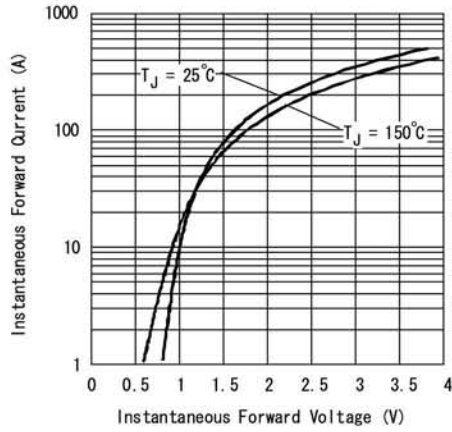


Fig. 8 – Thermal Impedance  $Z_{thJC}$  Characteristics

