

## LOW VF Schottky Rectifier

Reverse Voltage - 300 V

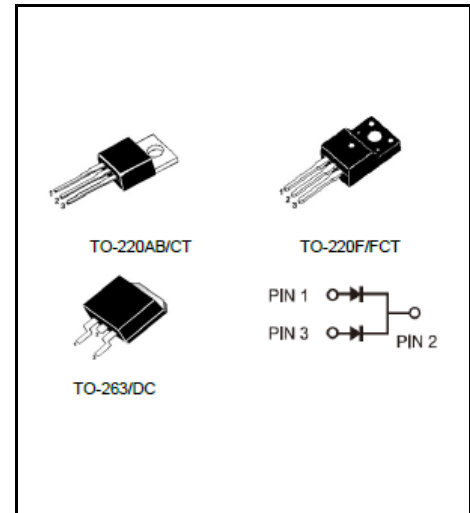
Forward Current - 20 A

### FEATURES

- ◆ Very low forward voltage
- ◆ High current capability
- ◆ High forward surge capability
- ◆ Low power losses, High efficiency
- ◆ Guarding for over voltage protection
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives

### MECHANICAL DATA

- ◆ Case: TO-220AB/CT TO-220F/FCT TO-263/DC
- ◆ Solder bath temperature 275°C maximum, 10s per JESD22-106



### Primary Characteristic

|                   |       |
|-------------------|-------|
| $I_o$             | 2*10A |
| $V_{RRM}$         | 300V  |
| $I_{FSM}$         | 120A  |
| $V_F$             | 0.78V |
| $T_J \text{ Max}$ | 175°C |

### Maximum Ratings (Per Leg) at $T_a=25^\circ\text{C}$ unless otherwise specified

| Parameter  | Symbols                         | Value      | Units |
|--|---------------------------------|------------|-------|
| Maximum Repetitive Peak Reverse Voltage                                | $V_{RRM}$                       | 300        | V     |
| Maximum RMS voltage  | $V_{RMS}$                       | 210        | V     |
| Maximum DC Blocking Voltage  | $V_{DC}$                        | 300        | V     |
| Maximum Average Forward Rectified Current                              | Per Leg                         | 10         | A     |
|  | Total                           | 20         |       |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave                | $I_{FSM}$                       | 120        | A     |
| Operating Temperature Range  | $T_J$                           | -55 ~ +175 | °C    |
| Storage Temperature Range  | $T_{STG}$                       | -55 ~ +175 | °C    |
| Typical Thermal Resistance <sup>(Note1)</sup> TO-220AB, TO-263 TO-220F | $R_{\theta JA} / R_{\theta JC}$ | 2/4        | °C/W  |

Note1: Thermal resistance from Junction to case per leg mounted on heatsink.

### Electrical Characteristics (Per Leg) unless otherwise specified

| Characteristics  | Symbols | Value    |      | Units |      |
|--|---------|----------|------|-------|------|
| Forward Voltage Drop (Note2)<br>at $I_F=3A$<br>at $I_F=5A$<br>at $I_F=10A$ | $V_F$   | Typ      | Max  | V     |      |
|  |         | TA=25°C  | 0.78 |       | 0.84 |
|  |         | TA=125°C | 0.65 |       | -    |
|  |         | TA=25°C  | 0.82 |       | 0.86 |
|  |         | TA=125°C | 0.70 |       | -    |
|  |         | TA=25°C  | 0.92 |       | 1.00 |
| Maximum Reverse Current at $V_R=300V$                                      | $I_R$   | TA=25°C  | 0.2  | 1     | uA   |
|  |         | TA=125°C | 10   | -     | uA   |

Note2: Pulse test: 300 μs pulse width, 1 % duty cycle

**RATINGS AND CHARACTERISTIC CURVES**

FIG. 1 MAXIMUM FORWARD CURRENT DERATING CURVE

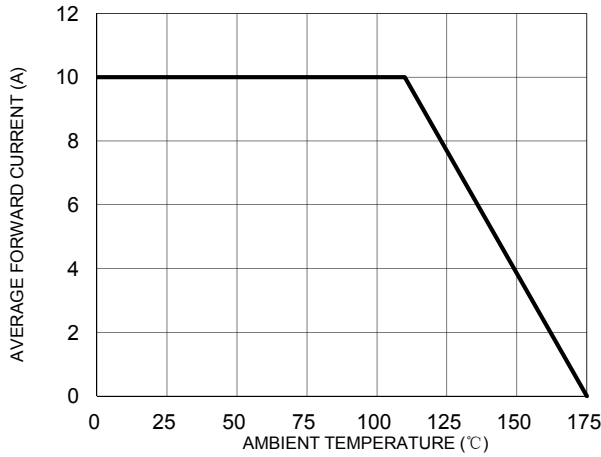


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

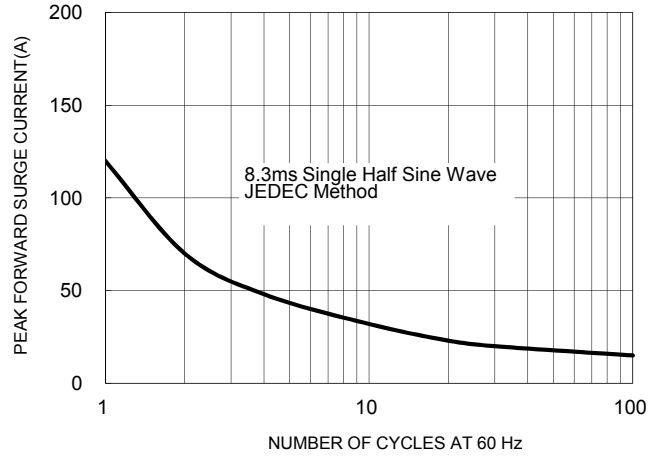


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

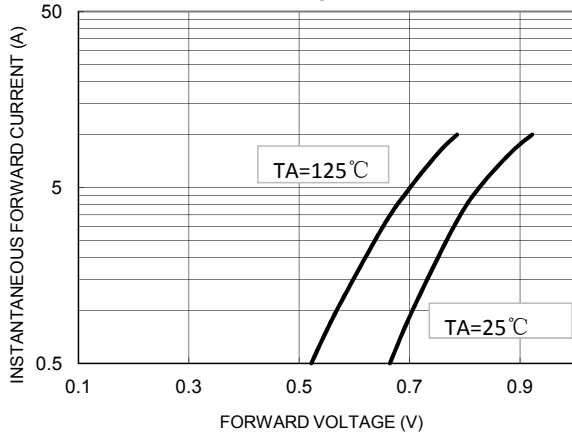
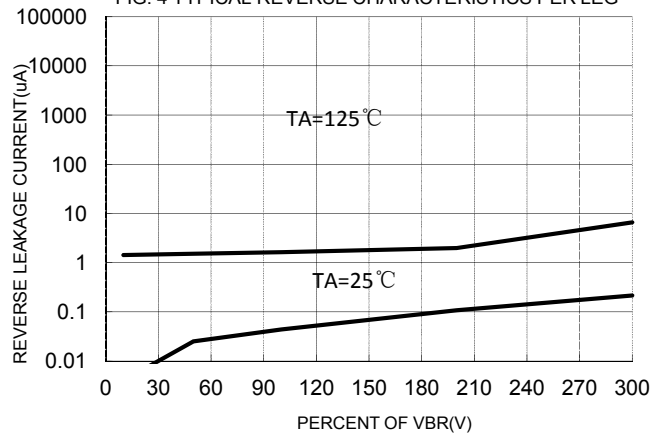
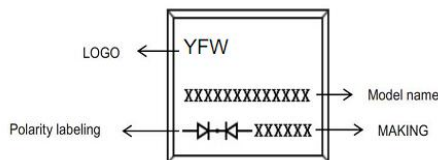


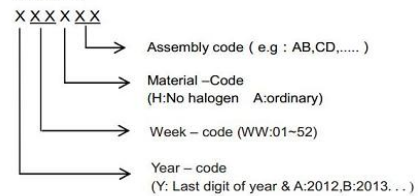
FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG



**Marking on the body**



MAKING:



**Ordering information**

| Part Number   | Package  | Unit Weight   | Base Quantity  | Delivery mode              |
|---------------|----------|---------------|----------------|----------------------------|
| HRM20L300CT   | TO-220AB | 0.07oz(1.96g) | 50 pcs / tube  | 1000pcs/box 5000pcs/carton |
| HRM20L300FCT  | TO-220F  | 0.06oz(1.74g) | 50 pcs / tube  | 1000pcs/box 5000pcs/carton |
| HRM20L300DC-G | TO-263   | 0.04oz(1.16g) | 50 pcs / tube  | 1000pcs/box 5000pcs/carton |
| HRM20L300DC   | TO-263   | 0.04oz(1.16g) | 800 pcs / reel | 1600pcs/box 4000pcs/carton |

Note: For Halogen Free molding compound, add "H" suffix to part number above.

Package Outline Dimensions millimeters

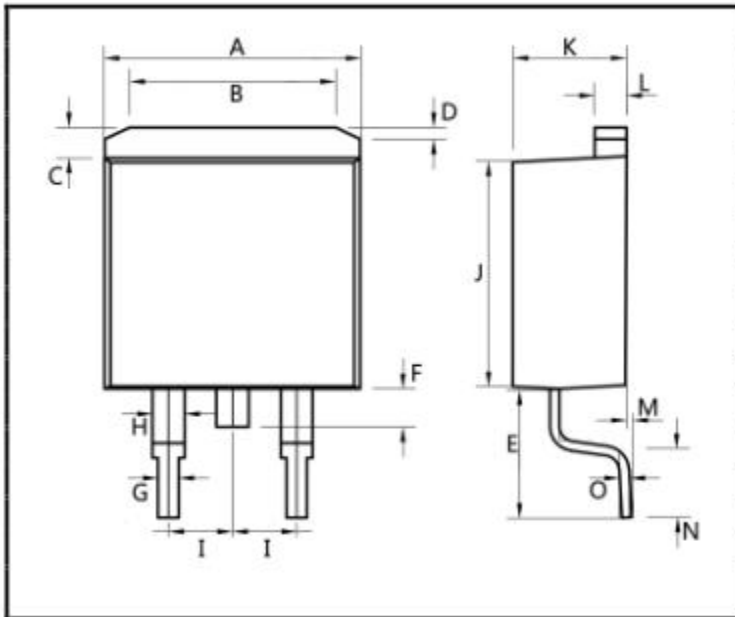
TO-220AB

|                              |      |          |       |
|------------------------------|------|----------|-------|
|                              | Dim. | Min.     | Max.  |
|                              | A    | 10.15    | 10.35 |
|                              | B    | 2.65     | 2.95  |
|                              | C    | 3.70     | 3.90  |
|                              | D    | 28.5     | 29.5  |
|                              | E    | 1.30     | 1.45  |
|                              | F    | 6.35     | 6.55  |
|                              | G    | 2.9      | 3.3   |
|                              | H    | 15.0     | 16.0  |
|                              | I    | 0.38     | 0.42  |
|                              | J    | 4.45     | 4.55  |
|                              | K    | 1.25     | 1.35  |
|                              | L    | Typ 5.08 |       |
|                              | M    | Typ 2.54 |       |
|                              | N    | 3.1      | 3.3   |
| O                            | 0.76 | 0.84     |       |
| All Dimensions in millimeter |      |          |       |

TO-220F

|                              |      |          |       |
|------------------------------|------|----------|-------|
|                              | Dim. | Min.     | Max.  |
|                              | A    | 9.95     | 10.25 |
|                              | B    | 2.95     | 3.25  |
|                              | C    | 1.25     | 1.45  |
|                              | D    | 12.95    | 13.25 |
|                              | E    | 0.50     | 0.65  |
|                              | F    | 3.1      | 3.3   |
|                              | G    | 1.30     | 1.45  |
|                              | H    | Typ 2.54 |       |
|                              | I    | Typ 5.08 |       |
|                              | J    | 4.60     | 4.75  |
|                              | K    | 2.50     | 2.65  |
|                              | L    | 6.35     | 6.55  |
|                              | M    | 15.4     | 16.0  |
|                              | N    | 2.75     | 3.05  |
| O                            | 0.48 | 0.52     |       |
| P                            | 0.76 | 0.84     |       |
| All Dimensions in millimeter |      |          |       |

TO-263



| Dim.                         | Min.     | Max. |
|------------------------------|----------|------|
| A                            | 10.1     | 10.2 |
| B                            | 7.4      | 7.6  |
| C                            | 1.3      | 1.5  |
| D                            | 0.55     | 0.75 |
| E                            | 5.0      | 6.0  |
| F                            | 1.4      | 1.6  |
| G                            | 0.78     | 0.86 |
| H                            | 1.2      | 1.3  |
| I                            | Typ 2.54 |      |
| J                            | 8.4      | 8.6  |
| K                            | 4.45     | 4.55 |
| L                            | 1.25     | 1.35 |
| M                            | 0.02     | 0.1  |
| N                            | 2.4      | 2.8  |
| O                            | 0.36     | 0.40 |
| All Dimensions in millimeter |          |      |