

## Main Product Characteristics

|             |       |
|-------------|-------|
| $I_{F(AV)}$ | 2x10A |
| $V_{RRM}$   | 60V   |
| $T_J$       | 150°C |
| $V_{(Typ)}$ | 0.46V |

## Features

- Low forward voltage drop.
- Excellent high temperature stability.
- Fast switching capability.
- Suffix "G" indicates Halogen-free part, ex. CSF20S60CTG-A.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

## Mechanical data

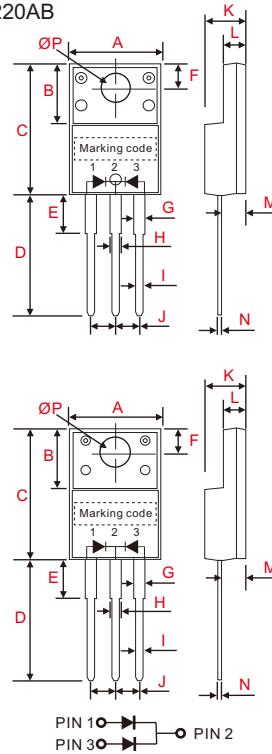
- Epoxy : UL94-V0 rated flame retardant.
- Case : JEDEC ITO-220AB molded plastic body.
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026.
- Polarity: As marked.
- Mounting Position : Any.
- Weight : Approximated 2.25 gram.

## Maximum ratings and electrical characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

## Outline

### ITO-220AB



| symbol | Dimensions in inches (millimeters) |              |
|--------|------------------------------------|--------------|
|        | Min                                | Max          |
| A      | 0.390(9.9)                         | 0.408(10.36) |
| B      | 0.268(6.8)                         | 0.283(7.2)   |
| C      | 0.583(14.8)                        | 0.598(15.2)  |
| D      | 0.512(13.0)                        | 0.543(13.8)  |
| E      | 0.102(2.6)                         | 0.150(3.8)   |
| F      | 0.101(2.55)                        | 0.112(2.85)  |
| G      | 0.043(1.1)                         | 0.053(1.35)  |
| H      | 0.043(1.1)                         | 0.053(1.35)  |
| I      | 0.020(0.5)                         | 0.028(0.7)   |
| J      | 0.098(2.49)                        | 0.102(2.59)  |
| K      | 0.169(4.3)                         | 0.185(4.7)   |
| L      | 0.112(2.85)                        | 0.128(3.25)  |
| M      | 0.098(2.5)                         | 0.114(2.9)   |
| N      | 0.020(0.5)                         | 0.028(0.7)   |
| ØP     | 0.130(3.3)                         | 0.134(3.5)   |

### Alternate

| symbol | Dimensions in inches (millimeters) |              |
|--------|------------------------------------|--------------|
|        | Min                                | Max          |
| A      | 0.383(9.72)                        | 0.404(10.27) |
| B      | 0.248(6.3)                         | 0.272(6.9)   |
| C      | 0.571(14.5)                        | 0.610(15.5)  |
| D      | 0.516(13.1)                        | 0.547(13.9)  |
| E      | -                                  | 0.161(4.1)   |
| F      | 0.094(2.4)                         | 0.126(3.2)   |
| G      | 0.039(1.0)                         | 0.051(1.3)   |
| H      | 0.039(1.0)                         | 0.051(1.3)   |
| I      | 0.020(0.5)                         | 0.035(0.9)   |
| J      | 0.095(2.41)                        | 0.105(2.67)  |
| K      | 0.169(4.3)                         | 0.189(4.8)   |
| L      | 0.055(1.4)                         | 0.122(3.1)   |
| M      | 0.091(2.3)                         | 0.117(2.96)  |
| N      | 0.014(0.35)                        | 0.031(0.8)   |
| ØP     | 0.122(3.1)                         | 0.142(3.6)   |

| Parameter                                                                                                      | Conditions                                                           | Symbol          | CSF20S60CT-A |      |      | UNIT |
|----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-----------------|--------------|------|------|------|
| Marking code                                                                                                   |                                                                      |                 | CSF20S60CT   |      |      |      |
| Peak repetitive reverse voltage                                                                                |                                                                      | $V_{RRM}$       | 60           |      |      | V    |
| Working peak reverse voltage                                                                                   |                                                                      | $V_{RWM}$       |              |      |      |      |
| DC blocking voltage                                                                                            |                                                                      | $V_{RM}$        |              |      |      |      |
| Forward rectified current (total device)                                                                       |                                                                      | $I_O$           | 20           |      |      | A    |
| Forward surge current (per diode)                                                                              | 8.3ms single half sine-wave superimposed on rate load (JEDEC method) | $I_{FSM}$       | 280          |      |      | A    |
| Peak repetitive reverse surge current (per diode)                                                              | 2us - 1kHz                                                           | $I_{RRM}$       | 3            |      |      | A    |
| Thermal resistance(1)                                                                                          | Junction to case                                                     | $R_{\theta JC}$ | 15           |      |      | °C/W |
| Operating and Storage temperature                                                                              |                                                                      | $T_J, T_{STG}$  | -55 ~ +150   |      |      | °C   |
|                                                                                                                |                                                                      |                 |              |      |      |      |
| Parameter                                                                                                      | Conditions                                                           | Symbol          | MIN.         | TYP. | MAX. | UNIT |
| Forward voltage drop (per diode)                                                                               | $I_F = 10A, T_J = 25^{\circ}C$                                       | $V_F$           |              |      | 510  | mV   |
|                                                                                                                | $I_F = 10A, T_J = 125^{\circ}C$                                      |                 |              | 460  | 470  |      |
|                                                                                                                | $I_F = 20A, T_J = 25^{\circ}C$                                       |                 |              |      | 710  |      |
| Reverse current (per diode)                                                                                    | $V_R = V_{RRM} \quad T_J = 25^{\circ}C$                              | $I_R$           |              |      | 0.5  | mA   |
|                                                                                                                | $V_R = V_{RRM} \quad T_J = 125^{\circ}C$                             |                 |              |      | 100  |      |
| Note : 1.Thermal resistance from junction to case per leg, with heatsink size(1.35" x 0.95" x 0.18") Al-plate. |                                                                      |                 |              |      |      |      |

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## ■ Rating and characteristic curves

Fig. 1 - Instantaneous Forward Characteristics (per diode)

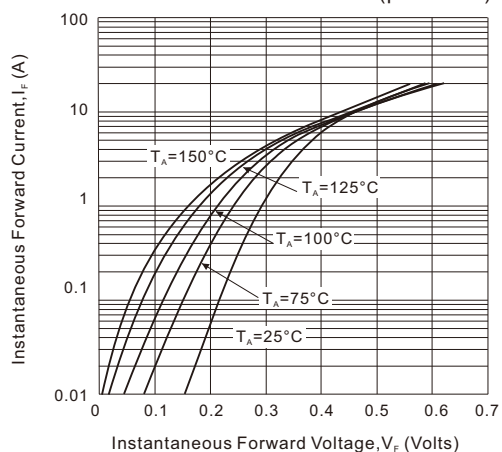


Fig. 1 - Forward Current Derating Curve (per diode)

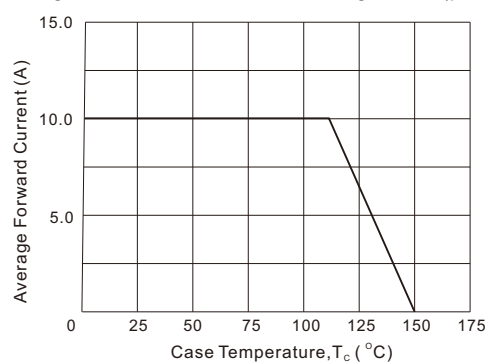
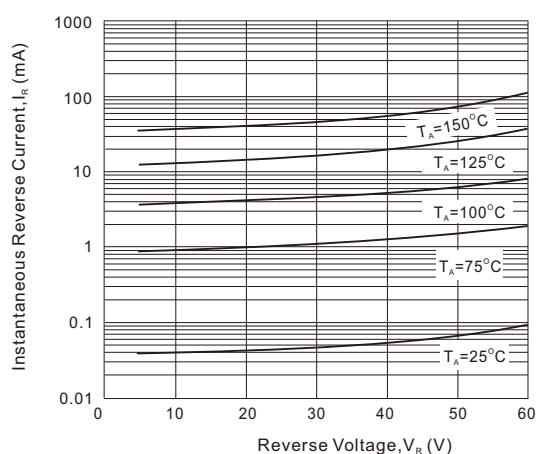


Fig. 3 - Reverse Characteristics (per diode)



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