

## Pb Free Plating Product

## TURF1620CTA thru TURF16120CTA



## 16.0 Ampere Insulated Dual Common Anode Ultra Fast Recovery Rectifiers

|                                                                                                                                                                                                                                                                                                                                                                    |                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| <b>Features</b> <ul style="list-style-type: none"><li>※ ThinkSemi latest&amp;matured process FRD/FRED</li><li>※ Low forward voltage drop</li><li>※ High current capability</li><li>※ Low reverse leakage current</li><li>※ High surge current capability</li></ul>                                                                                                 | <div>ITO-220AB/TO-220F-3L</div> <div><p>Unit:inch(mm)</p></div> |
| <b>Application</b> <ul style="list-style-type: none"><li>※ Automotive Inverters and Solar Inverters</li><li>※ Car Audio Amplifiers and Sound Device Systems</li><li>※ Plating Power Supply, Motor Control, UPS and SMPS etc.</li></ul>                                                                                                                             |                                                                 |
| <b>Mechanical Data</b> <ul style="list-style-type: none"><li>※ Case: Isolated fully plastic ITO-220AB/TO-220F-3L package</li><li>※ Epoxy: UL 94V-0 rate flame retardant</li><li>※ Terminals: Solderable per MIL-STD-202 method 208</li><li>※ Polarity: As marked on diode body</li><li>※ Mounting position: Any</li><li>※ Weight: 2.0 gram approximately</li></ul> |                                                                 |

## 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%.

| PARAMETER                                                                                                            | SYMBOL          | TURF1620CTA | TURF1640CTA | TURF1660CTA | TURF1680CTA | TURF16100CTA | TURF16120CTA | UNIT     |
|----------------------------------------------------------------------------------------------------------------------|-----------------|-------------|-------------|-------------|-------------|--------------|--------------|----------|
| Maximum Recurrent Peak Reverse Voltage                                                                               | VRRM            | 200         | 400         | 600         | 800         | 1000         | 1200         | V        |
| Maximum RMS Voltage                                                                                                  | VRMS            | 140         | 280         | 420         | 560         | 700          | 840          | V        |
| Maximum DC Blocking Voltage                                                                                          | VDC             | 200         | 400         | 600         | 800         | 1000         | 1200         | V        |
| Maximum Average Forward Rectified Current TC=125℃<br>(Total Device 2x8.0A=16.0A)                                     | IF(AV)          | 16.0        |             |             |             |              |              | A        |
| Peak Forward Surge Current, 8.3ms single Half sine-wave superimposed on rated load (JEDEC method)(Per Diode/Per Leg) | IFSM            | 160         |             |             |             |              |              | A        |
| Maximum Instantaneous Forward Voltage @8.0A(Per Diode/Per Leg)                                                       | VF<br>(Typical) | 0.85-0.95   | 1.00-1.25   | 1.25-1.50   | 1.50-1.70   |              |              | V        |
| Maximum DC Reverse Current @TJ=25℃<br>At Rated DC Blocking Voltage @TJ=125℃                                          | IR              | 1.0<br>100  |             |             |             |              |              | μA<br>μA |
| Maximum Reverse Recovery Time (Note1)                                                                                | Trr             | 25-50       |             |             | 50-75       |              |              | nS       |
| Typical Junction Capacitance (Note 2)                                                                                | CJ              | 80          |             |             |             |              |              | pF       |
| Typical Thermal Resistance (Note 3)                                                                                  | RθJC            | 3.0         |             |             |             |              |              | ℃/W      |
| Operating Junction and Storage Temperature Range                                                                     | TJ,TSTG         | -55 to +175 |             |             |             |              |              | ℃        |

Note:(1)Reverse recovery test conditions IF = 0.5A, IR = 1.0A, Irr = 0.25A.

Note:(2)Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts DC.

Note:(3)Thermal Resistance junction to case.

FIG.1 - FORWARD CURRENT DERATING CURVE

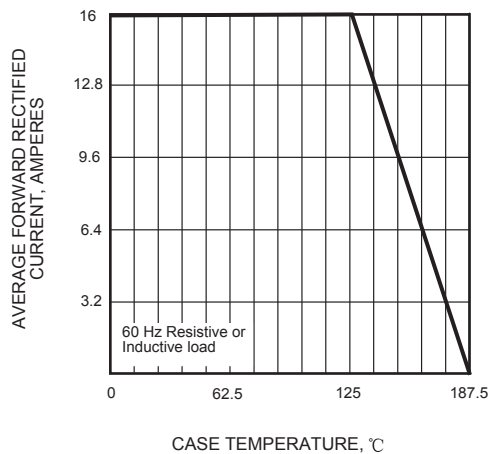


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

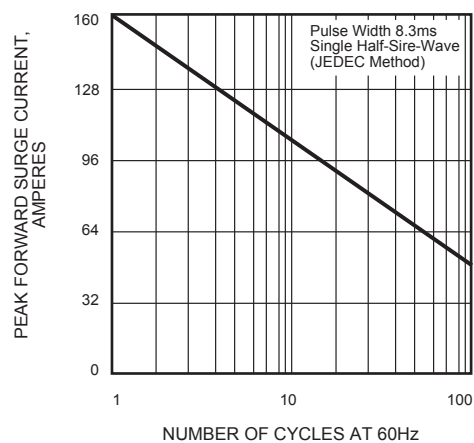


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

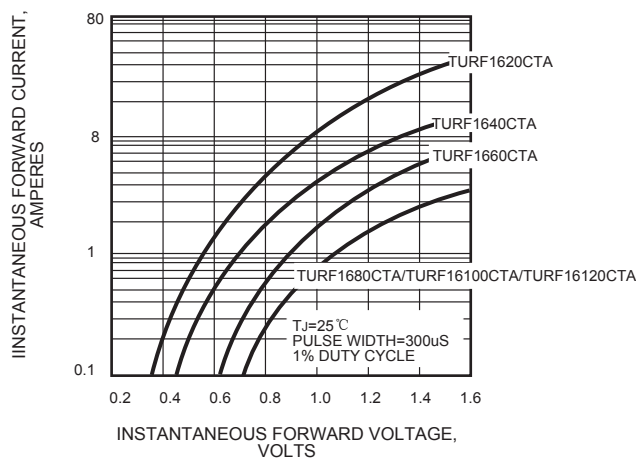


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

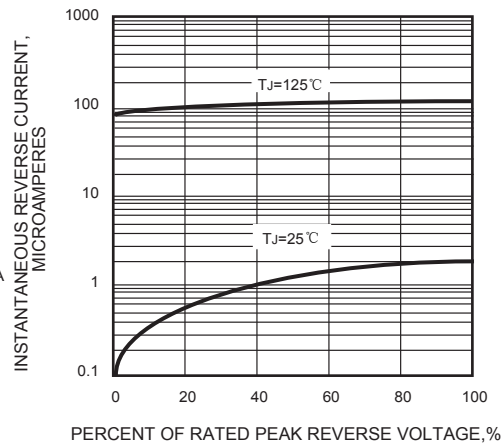


FIG.5 - TYPICAL JUNCTION CAPACITANCE

