

# TDS:EMIC

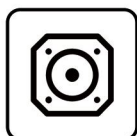
## 拓 電 半 導 體

自主封測 品質把控 售後保障

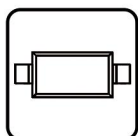
WEB | [WWW.TDSEMIC.COM](http://WWW.TDSEMIC.COM)



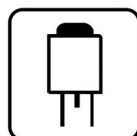
電源管理



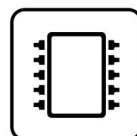
顯示驅動



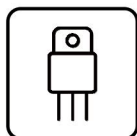
二三極管



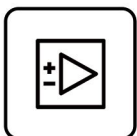
LDO穩壓器



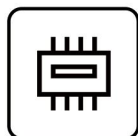
觸摸芯片



MOS管



運算放大器



存儲芯片



MCU



串口通信

# ES3DB-TD

產品規格說明書

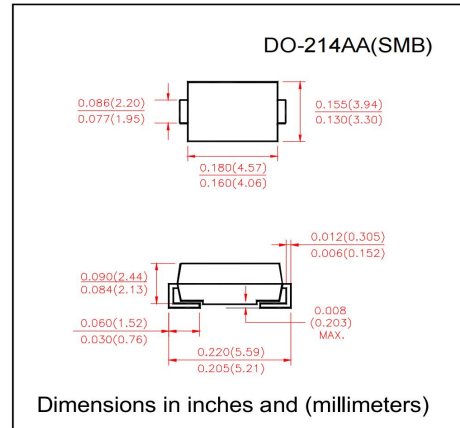
## SURFACE MOUNT SUPER FAST RECTIFIER

### FEATURES

- Plastic package has underwrites laboratory Flammability Classification 94V-0
- Glass passivated chip junction
- Built-in strain relief,
- Suoer Fast switching speed for high efficiency
- High temperature soldering guaranteed: 260°C/10 seconds

### MECHANICAL DATA

- Case: JEDED DO-214AB transfer molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750
- Method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.007 ounce, 0.25 gram



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

|                                                                                                                     | SYMBOLS                | ES3A           | ES3B | ES3C | ES3D | ES3E | ES3G | ES3J | UNIT  |
|---------------------------------------------------------------------------------------------------------------------|------------------------|----------------|------|------|------|------|------|------|-------|
| Maximum Repetitive Peak Reverse Voltage                                                                             | V <sub>RRM</sub>       | 50             | 100  | 150  | 200  | 300  | 400  | 600  | Volts |
| Maximum RMS Voltage                                                                                                 | V <sub>RMS</sub>       | 35             | 70   | 105  | 140  | 210  | 280  | 420  | Volts |
| Maximum DC Blocking Voltage                                                                                         | V <sub>DC</sub>        | 50             | 100  | 150  | 200  | 300  | 400  | 600  | Volts |
| Maximum Average Forward Rectified Current at T <sub>I</sub> =100°C                                                  | I <sub>(AV)</sub>      | 3.0            |      |      |      |      |      |      | Amps  |
| Peak Forward Surge Current<br>8.3ms single half sine-wave superimposed on<br>rated load (JEDEC method)              | I <sub>FSM</sub>       | 100            |      |      |      |      |      |      | Amps  |
| Maximum Instantaneous Forward Voltage @ 3.0A                                                                        | V <sub>F</sub>         | 0.95           |      |      | 1.25 | 1.7  |      |      | Volts |
| Maximum DC Reverse Current at rated<br>DC Blocking Voltage per element                                              | T <sub>A</sub> = 25°C  | I <sub>R</sub> | 5.0  |      |      |      |      |      | μA    |
|                                                                                                                     | T <sub>A</sub> = 125°C |                | 300  |      |      |      |      |      |       |
| Typical Reverse Recovery Time<br>Test conditions I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>RR</sub> =0.25A | t <sub>rr</sub>        | 35             |      |      |      |      |      |      | nS    |
| Typical Junction Capacitance<br>(Measured at 1.0MHz and applied reverse voltage of 4.0V)                            | C <sub>J</sub>         | 45             |      |      |      | 30   |      |      | pF    |
| Typical Thermal Resistance (Note 1)                                                                                 | R <sub>θJA</sub>       | 55             |      |      |      |      |      |      | °C/W  |
|                                                                                                                     | R <sub>θJL</sub>       | 17             |      |      |      |      |      |      |       |
| Operating Junction Temperature Range                                                                                | T <sub>J</sub>         | (-55 to +150)  |      |      |      |      |      |      | °C    |
| Storage Temperature Range                                                                                           | T <sub>STG</sub>       | (-55 to +150)  |      |      |      |      |      |      | °C    |

#### Notes:

1. Thermal resistance from Junction to ambient and from junction to lead mounted on P.C.B. with 0.3"×0.3"(8.0mm × 8.0mm) copper pad areas.

## RATING AND CHARACTERISTIC CURVES ES3A THRU ES3J

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

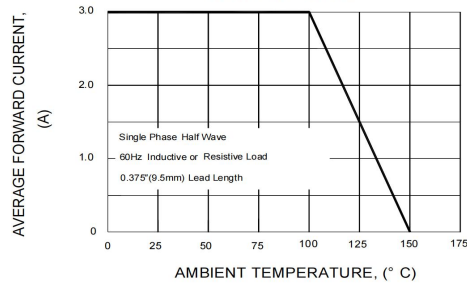


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

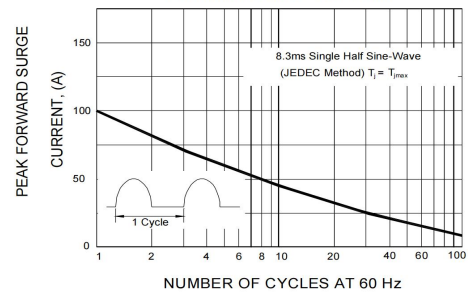


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

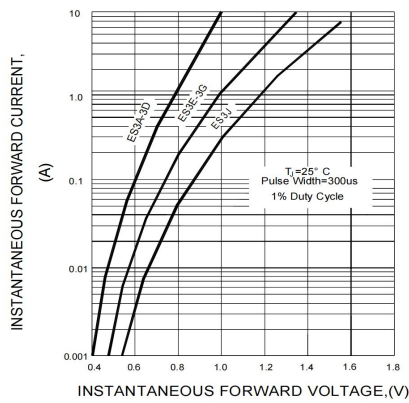


FIG.4-TYPICAL REVERSE CHARACTERISTICS

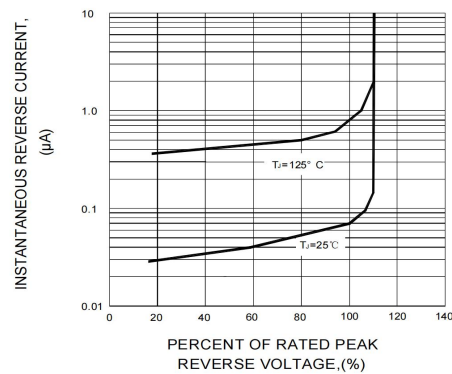


FIG.5-TYPICAL JUNCTION CAPACITANCE

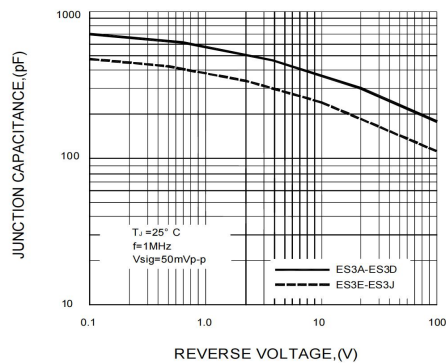


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

