

### HIGH EFFICIENCY RECTIFIER

VOLTAGE RANGE: 1500 V  
CURRENT: 10 A

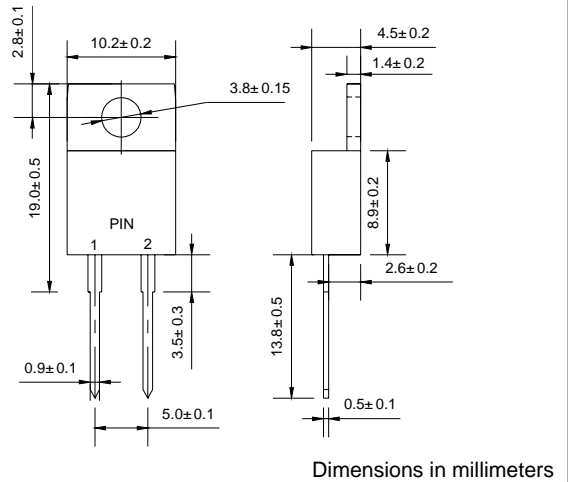
#### FEATURES

- ◇ Metal-Semiconductor junction with guard ring
- ◇ Epitaxial construction
- ◇ Low forward voltage drop, low switching losses
- ◇ High surge capability
- ◇ For use in low voltage, high frequency inverters free wheeling, and polarity protection applications
- ◇ The plastic material carries U/L recognition 94V-0

#### MECHANICAL DATA

- ◇ Case: JEDEC TO-220AC
- ◇ Terminals: Solderable per MIL-STD-202, Method 208
- ◇ Polarity: As marked
- ◇ Weight: 0.064 ounces, 1.96 gram
- ◇ Mounting position: Any

#### TO-220AC



#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 50 Hz, resistive or inductive load. For capacitive load, derate by 20%.

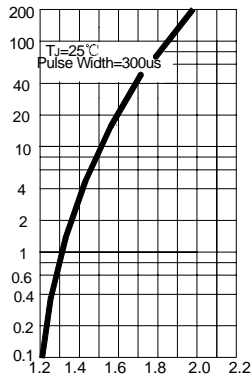
		DD10515	UNITS
Maximum recurrent peak reverse voltage	V <sub>RRM</sub>	1500	V
Maximum RMS voltage	V <sub>RMS</sub>	1050	V
Maximum DC blocking voltage	V <sub>DC</sub>	1500	V
Maximum average forward rectified current @T <sub>C</sub> =100°C	I <sub>F(AV)</sub>	10	A
Peak forward surge current 10ms single half-sine-wave superimposed on rated load	I <sub>FSM</sub>	100	A
Maximum instantaneous forward voltage (I <sub>F</sub> =6.5A)	V <sub>F</sub>	1.5	V
Maximum reverse current @T <sub>J</sub> =25°C at rated DC blocking voltage @T <sub>J</sub> =125°C	I <sub>R</sub>	10 500	μ A
Maximum reverse recovery time (Note1)	t <sub>rr</sub>	175	ns
Typical thermal resistance (Note2)	R <sub>θJC</sub>	4.0	°C/W
Operating junction temperature range	T <sub>J</sub>	- 55 ---- + 150	°C
Storage temperature range	T <sub>STG</sub>	- 55 ---- + 150	°C

NOTE: 1. Measured with I<sub>F</sub>=0.5A, I<sub>R</sub>=1A, I<sub>rr</sub>=0.25A.  
2. Thermal resistance junction to case.

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**FIG.1 – TYPICAL FORWARD CHARACTERISTIC**

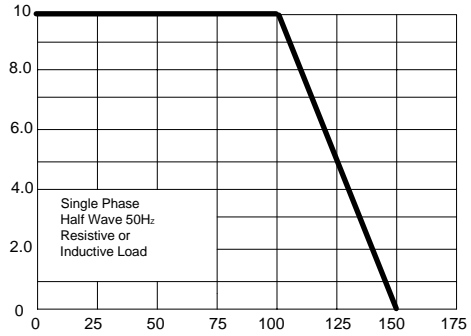
INSTANTANEOUS FORWARD CURRENT  
AMPERES



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

**FIG.2- FORWARD DERATING CURVE**

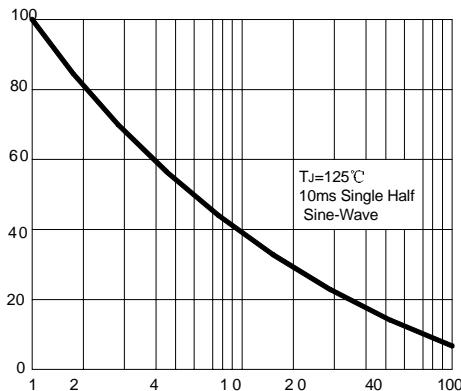
AVERAGE FORWARD CURRENT  
AMPERES



CASE TEMPERATURE, °C

**FIG.3- PEAK FORWARD SURGE CURRENT**

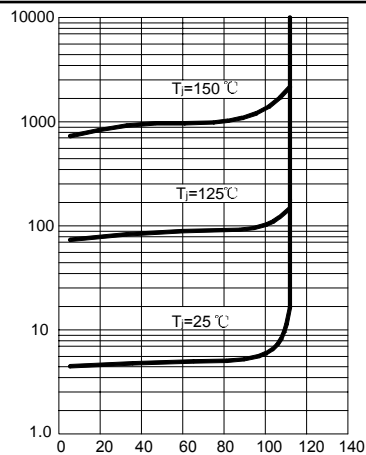
PEAK FORWARD SURGE CURRENT  
AMPERES



NUMBER OF CYCLES AT 50Hz

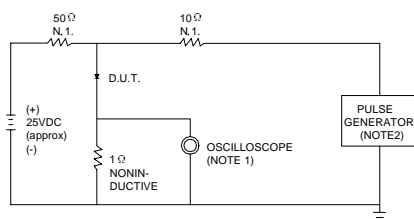
**FIG.4 – TYPICAL REVERSE CHARACTERISTICS**

INSTANTANEOUS REVERSE CURRENT,  
MICROAMPERES

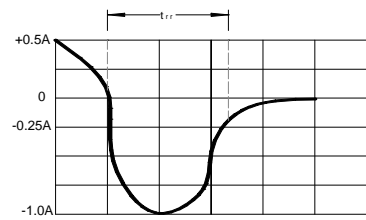


PERCENT OF RATED PEAK REVERSE VOLTAGE, (%)

**FIG.5 -- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC**



NOTES:1.RISE TIME = 7ns MAX.INPUT IMPEDANCE = 1MΩ .22pF.  
2.RISE TIME =10ns MAX.SOURCE IMPEDANCE=50 Ω .



SET TIME BASE FOR 85 ns/cm