



## TSA15P80

VOLTAGE RANGE

80 Volts

CURRENT

15 Ampere



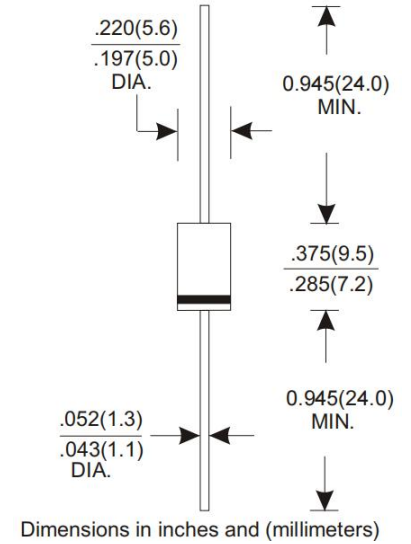
## Features

- Fast switching speed
- Low forward voltage
- Low power high efficiency
- High surge capability
- High temperature soldering guaranteed  
250°C/10 seconds,0.373"(9.5mm)lead length



## Mechanical Data

- Case: Transfer molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead :Solder plated, solderable per MIL-STD-750 method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.04ounce, 1.10 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%

TYPE NUMBER	SYMBOLS	TSA15P80	UNIT	
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	80	Volts	
Maximum RMS Voltage	$V_{RMS}$	65	Volts	
Maximum DC Blocking Voltage	$V_{DC}$	80	Volts	
Maximum Average Forward Rectified Current at $T_L$ see figure 1 $T_L=85^\circ\text{C}$	$I_{(AV)}$	15	Amps	
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	180	Amps	
Maximum Instantaneous Forward Voltage @ 15A (Note1)	Type		Volts	
	$I_F=2A$	$T_J=25^\circ\text{C}$		Typ. 0.41
		$T_J=125^\circ\text{C}$		Max. 0.48
	$I_F=15A$	$T_J=25^\circ\text{C}$		0.33
$T_J=125^\circ\text{C}$		0.70		
Maximum DC Reverse Current at rated DC Blocking Voltage per element	$T_A=25^\circ\text{C}$	0.1	mA	
	$T_A=100^\circ\text{C}$	0.5		
Typical thermal resistance per diode(Mounted on FR-4 PCB) (Note 2)	$R_{\theta JA}$	22	$^\circ\text{C}/\text{W}$	
Diode junction capacitance (Note 3)	$C_J$	270	pF	
Operating Junction Temperature	$T_J$	(-55 to +125)	$^\circ\text{C}$	
Storage Temperature Range	$T_{STG}$	(-55 to +125)	$^\circ\text{C}$	

## Notes:

1. Pulse test:300 $\mu\text{s}$  pulse width,1% duty cycle.
2. Thermal Resistance from junction to Ambient at .375"(9.5mm)lead length, P.C.board mounted.
3.  $f=1\text{MHz}$  and applied 4V DC reverse voltage.



Ratings and Characteristic Curves ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

FIG.1-FORWARD CURRENT DERATING CURVE

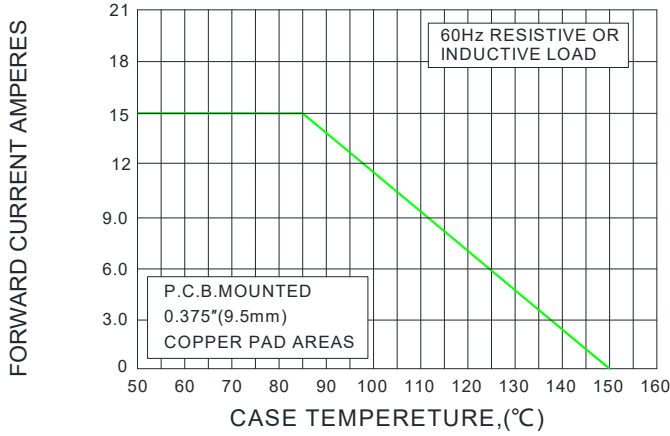


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

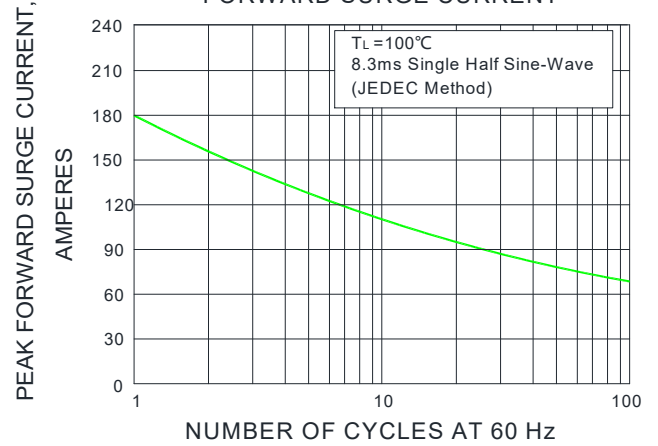


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

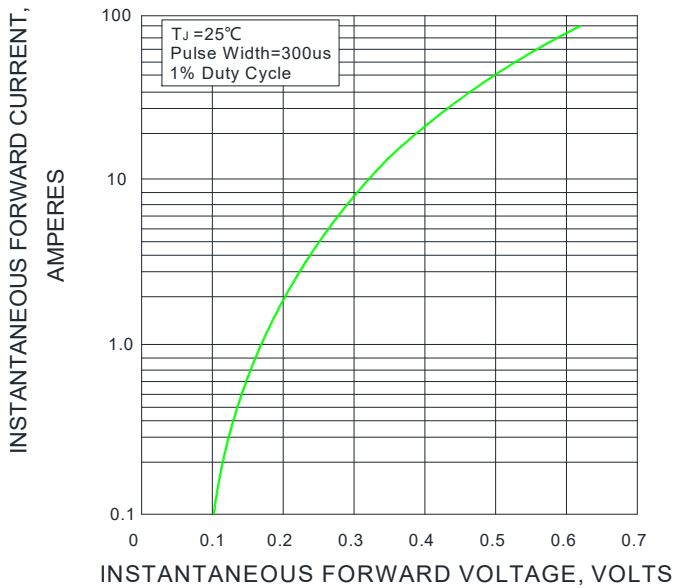


FIG.4-TYPICAL REVERSE CHARACTERISTICS

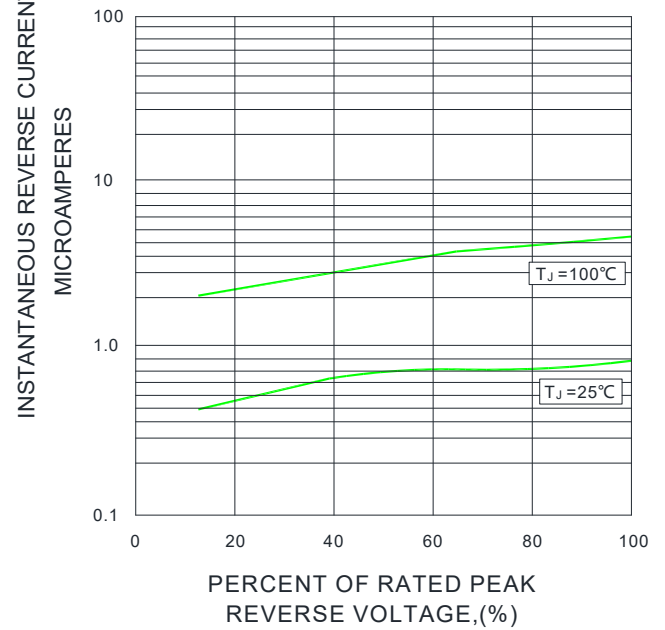
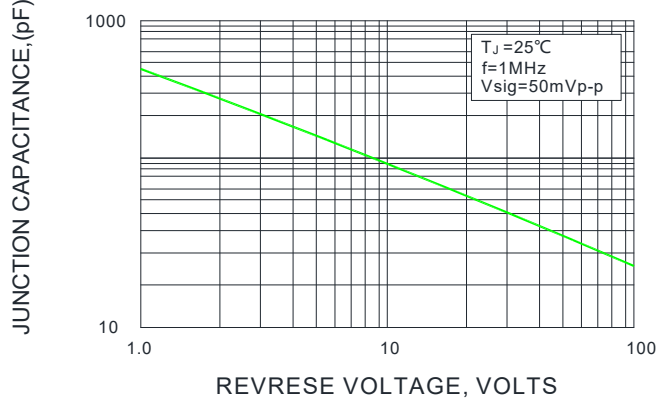
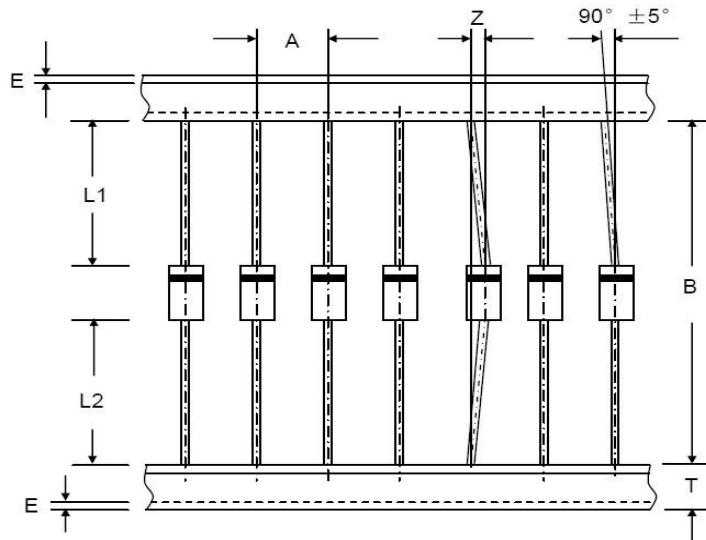


FIG.5-TYPICAL JUNCTION CAPACITANCE





### Axial Lead Taping Specifications for Rectifiers

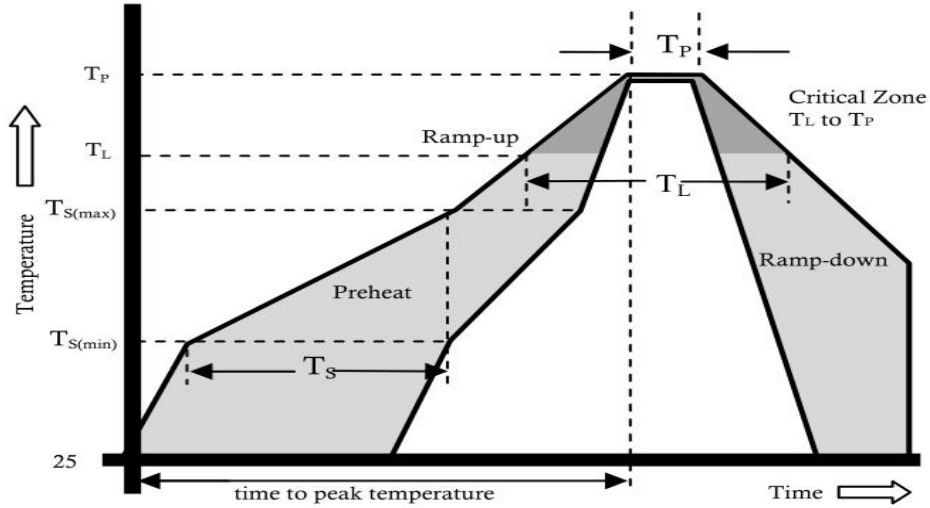


Component Outline	Component Pitch A	Inner Tape Pitch B	Cumulative Tolerance
	±0.5mm	+0.5mm -0.4mm	
DO-201AD(DO-27)	10.0mm	52.4mm	2.0mm/20pitch

Item	Symbol	Specifications(mm)	Specifications(inch)
Component alignment	Z	1.2 max	0.048 max
Tape width	T	6.0±0.4	0.236±0.016
Exposed adhesive	E	0.8 max	0.032 max
Body eccentricity	L1-L2	1.0 max	0.040 max



## Reflow Profile



Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time(Min to Max)	60-180 secs.
Average ramp up rate(Liquidus Temp(T <sub>L</sub> ) to peak)		3°C/sec. Max.
T <sub>S</sub> (max) to T <sub>L</sub> - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature (T <sub>L</sub> )(Liquidus)	+217°C
	Temperature (T <sub>L</sub> )	60-150 secs.
Peak Temp (T <sub>P</sub> )		+(260+0/-5) °C
Time within 5°C of actual Peak Temp (T <sub>P</sub> )		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp (T <sub>P</sub> )		8 min. Max.
Do not exceed		+260°C



AXIAL MOUNT SCHOTTKY DIODE

TSA15P80

VOLTAGE RANGE 80 Volts  
CURRENT 15 Ampere

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