GLASS PASSIVATED SUPER FAST RECTIFIER

SF22 THRU SF28

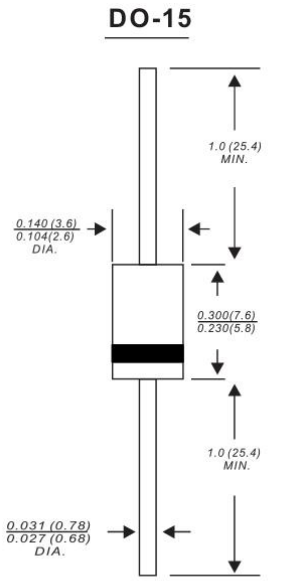
VOLTAGE RANGE 100 to 600 Volts

CURRENT 2.0 Ampere

RoHS COMPLIANT

Features

- Super fast switching speed
- Glass passivated chip junction
- Low power loss, high efficiency
- Low leakage
- High Surge Capacity
- High temperature soldering guaranteed
  260℃/10 seconds, 0.375"(9.5mm) lead length



Dimensions in inches and (millimeters)

Mechanical Data

- Case: Transfer molded plastic
- Epoxy: UL94V-0 rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any
- Weight: 0.012ounce, 0.39 grams

Maximum Ratings and Electrical Characteristics

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

TYPE NUMBER		SYMBOLS	SF22	SF24	SF25	SF26	SF27	SF28	UNIT
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	100	200	300	400	500	600	Volts
Maximum RMS Voltage		V_{RMS}	70	140	210	280	350	420	Volts
Maximum DC Blocking Voltage		V_{DC}	100	200	300	400	500	600	Volts
Maximum Average Forward Rectified Current 0.375"(9.5mm) lead length at T_A=75℃		$I_{(AV)}$	2.0						Amps
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)		I_{FSM}	60						Amps
Maximum Instantaneous Forward Voltage at 2.0A		V_F	0.95		1.25		1.70		Volts
Maximum DC Reverse Current at rated DC blocking Voltage at	T_A = 25℃	I_R	5.0						μA
	T_A = 125℃		100						
Maximum Reverse Recovery Time (NOTE 1)		T_{RR}	35						nS
Typical Junction Capacitance (NOTE 2)		C_J	30						pF
Typical Thermal Resistance (NOTE 3)		$R_{\theta JA}$	50						℃/W
Operating Junction Temperature Range		T_J	-55 to +150						℃
Storage Temperature Range		T_{STG}	-55 to +150						℃

Notes:

1. Reverse Recovery Test Conditions:If=0.5A,Ir=1.0A,Irr=0.25A
2. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
3. Thermal Resistance from Junction to Ambient with 0.375"(9.5mm) lead length, PCB mounted.

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Ratings and Characteristic Curves (T_A=25℃ unless otherwise noted)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

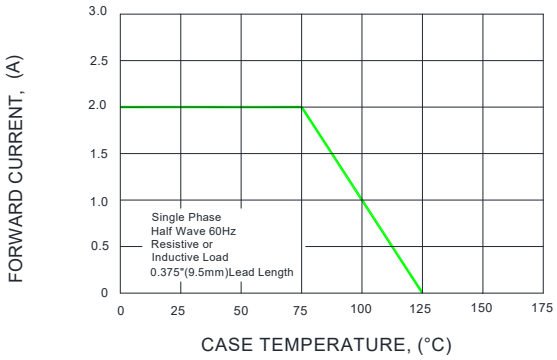


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

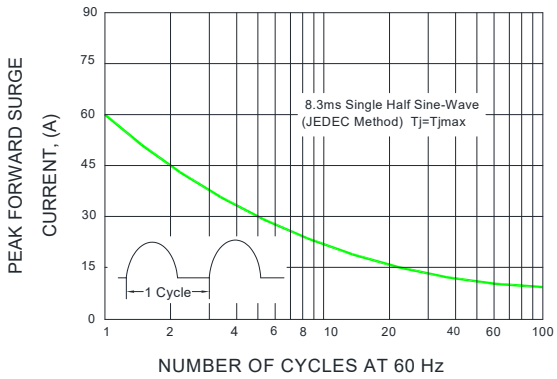


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

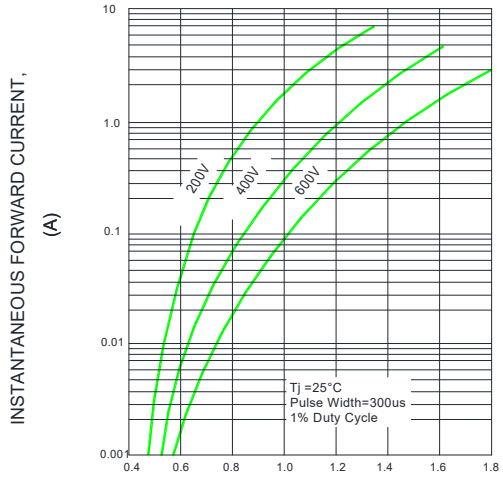


FIG.4-TYPICAL REVERSE CHARACTERISTICS

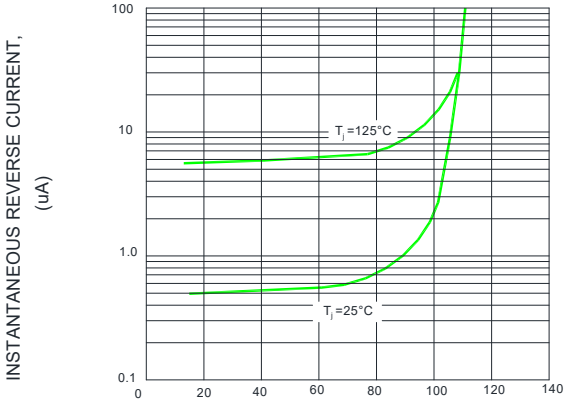


FIG.5-TYPICAL JUNCTION CAPACITANCE

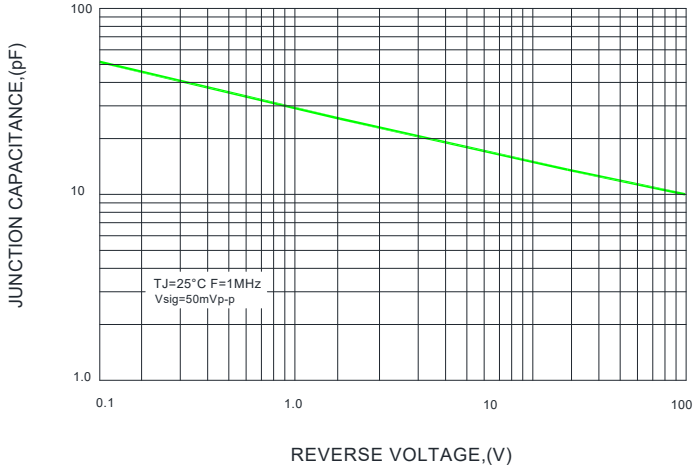
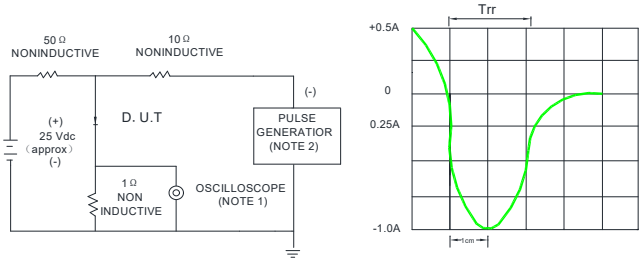


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE REXOVERY TIME CHARACTERISTIC



NOTE: 1.Rise Time =7ns max.Input Impedance=1megohm.22pF
2.Rise time=10ns max.Source Impedance=50 ohms

SET TIME BASE FOR
50 /100NS /cm

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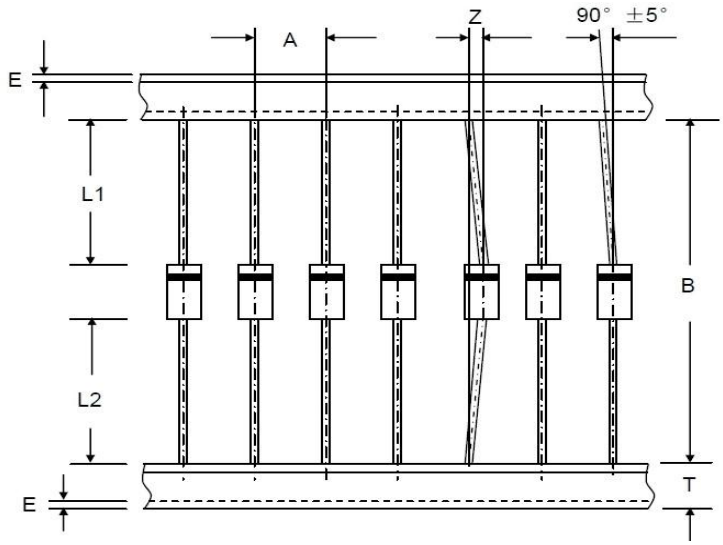
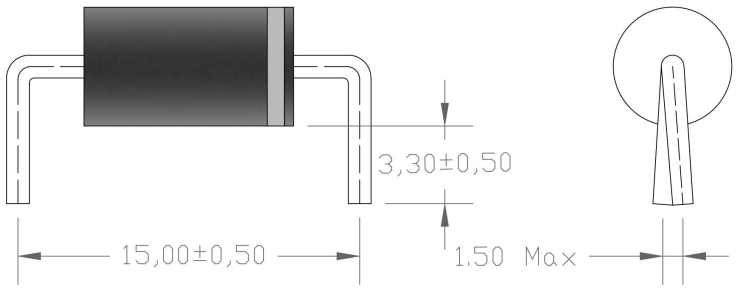
Axial Lead Taping Specifications for Rectifiers



Component Outline	Component Pitch A	Inner Tape Pitch B		Cumulative Tolerance
	±0.5mm	+0.5mm -0.4mm		
DO-204AC(DO-15)	5.0mm	52.4mm	26.0mm	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	IL1-L2I	1.0 max	0.040 max

Dimensions (DO-15/DO-204AC)



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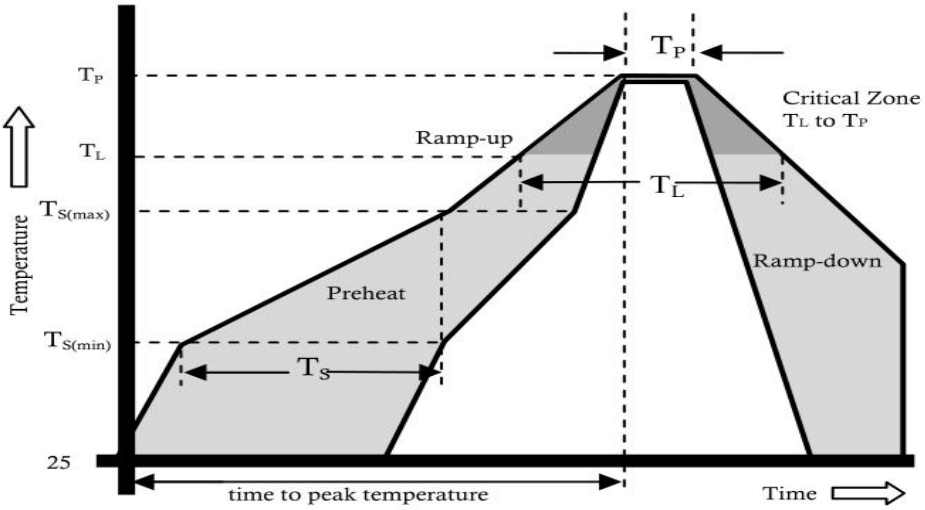
Reflow Profile



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_L) to peak)		3°C/sec. Max.
T_S(max) to T_L - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature (T_L)(Liquidus)	+217°C
	Temperature (T_L)	60-150 secs.
Peak Temp (T_P)		+(260+0/-5)°C
Time within 5°C of actual Peak Temp (T_P)		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp (T_P)		8 min. Max.
Do not exceed		+260°C

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