

IN 5831**NAINA****25 AMPERE
40 VOLTS****Switch mode Power Rectifier.**

employing the Schottky Barrier principle in a large area metal-to-silicon power diode. State-of-the-art geometry features epitaxial construction with oxide passivation and metal overlap contact. Ideally suited for use as rectifiers in low-voltage, high-frequency inverters, free wheeling diodes, and polarity protection diodes.

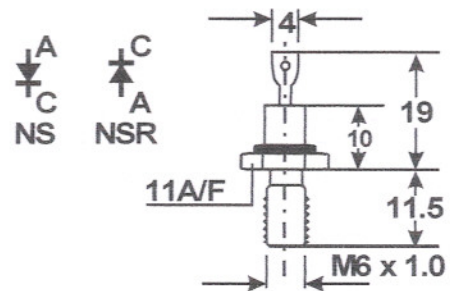
- Extremely Low V_f
- Low Stored Charge, Majority Carrier Conduction
- Low Power Loss/High Efficiency
- High Surge Capacity

Mechanical Characteristics :

- Case Welded steel, hermetically sealed
- Finish : All External Surfaces Corrosion Resistant and Terminal Lead is Readily Solderable

Solder Heat : The excellent heat transfer property of the heavy duty copper anode terminal which transmits heat away from the die requires that caution be used when attaching wires.

- Stud Torque: 15 lb-in max

**MAXIMUM RATINGS**

Ratings	Symbol	1N5831	UNIT
Peak Repetitive Reverse Voltage	V_{RRM}	40	Volts
Working Peak Reverse Voltage	V_{RWM}		
PC Blocking Voltage	V_R		
Nonrepetitive Peak Reverse Voltage	V_{RSM}	48	Volts
Average Rectified Forward Current $V_{R(equiv)} \leq 0.2 V_{R(dc)}$, $T_C = 85^\circ C$	I_o	25	Amps
Ambient Temperature Rated $V_{R(dc)}$, $P_{F(AV)} = 0$, $R_{\theta JA} = 3.5^\circ C/W$	T_A	90	$^\circ C$
Nonrepetitive Peak Surge Current (surge applied at rated load conditions, halfwave, single phase, 60 Hz)	I_{FSM}	800 for one cycle	Amps
Operating and Storage Junction Temperature Range (Reverse voltage applied)	T_J, T_{stg}	-65 TO +125	$^\circ C$
Peak Operating Junction Temperature (Forward Current Applied)	$T_{J(pk)}$	150	$^\circ C$

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max	Unit
Thermal Resistance, Junction to case	$R_{\theta JC}$	1.75	$^\circ C/W$

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ C$ unless otherwise noted)

Maximum Instantaneous Forward Voltage ⁽¹⁾ ($I_F = 10$ Amps)	V_F	0.38	Volts
($I_F = 25$ Amps))		0.48	
($I_F = 78.5$ Amps)		0.82	
Maximum Instantaneous Reverse Current @ Rated dc Voltage ⁽¹⁾ (1) ($T_C = 100^\circ C$)		20	ma
		150	

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