MHCHXM

SF2002CT THUR SF2006CT

SUPER-FAST RECOVERY RECTIFIERS

REV:1.01

Features

- ◆ Ultrafast 35 Nanosecond Recovery Time
- ◆ 175° C Operating Junction Temperature
- ◆ Popular TO-220AB Package
- ◆ Epoxy Meets UL94 ,V0 @ 1/8″
- ◆ High Temperature Glass Passivated Junction
- ◆ Low Forward Voltage
- ◆ Low Leakage Current
- ◆ Reverse Voltage to 600 Volts
- ◆ Pb-Free Packages are Available

Typical Reference Data

VRRM= 200V
IF(AV)= 20A

VRRM= 400V
IF(AV)= 20A

VRRM= 600V
IF(AV)=20A

Mechanical Characteristics

- ● Case: Epoxy, Molded
- ● Weight: 1.9 grams (approximately)
- ● Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- ● Lead Temperature for Soldering Purposes: 260° C Max. for 10 Seconds
- ● Shipped 50 units per plastic tube

MAXIMUM RATINGS

Rating	Symbol	SF2002	SF2004	SF2006	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	VRRM VRWM VR	200	400	600	V
Average Rectified Forward Current Total Device, (Rated VR), TC = 150℃	IF(AV)	10 20			A
Peak Repetitive Forward Current (Rated VR, Square Wave, 20 kHz), TC = 150℃	IFM	16			A
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave , single phase, 60 Hz)	IFSM	100			A
Operating Junction Temperature and Storage Temperature	TJ, Tstg	-40 to +175			℃

THERMAL CHARACTERISTICS (Per Diode Leg)

Maximum Thermal Resistance, Junction to Case	RθJC	3.0	2.0		℃/W

ELECTRICAL CHARACTERISTICS(Per Diode Leg)

Maximum Instantaneous Forward Voltage (1) (IF = 8.0 Amps, TC = 25° C)	VF	1.1	1.4	1.5	V
Maximum Instantaneous Reverse Current (1)	IR				μA
(Rated dc Voltage, TJ = 150° C)		800	800	800	
(Rated dc Voltage, TJ = 25° C)		10	10	10	
Maximum Reverse Recovery Time (IF = 0.5 A, IR = 1.0 A, IREC = 0.25 A)	Trr	35			ns

(1) Pulse Test: Pulse Width = 300μs, Duty Cycle≤2.0%.

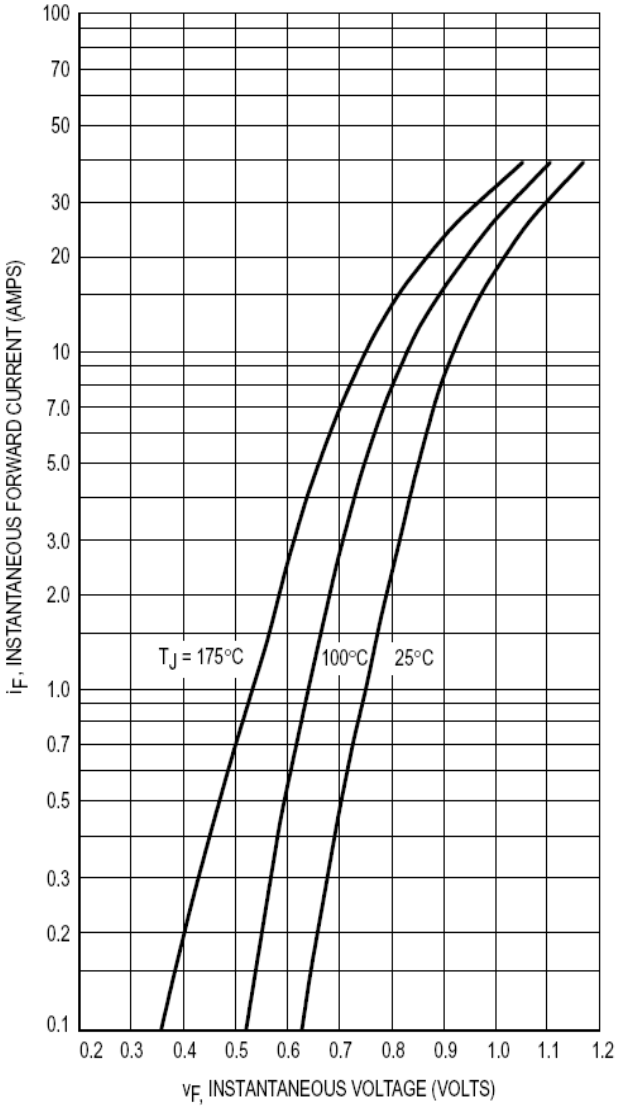


Figure 1.Typical Forward Voltage

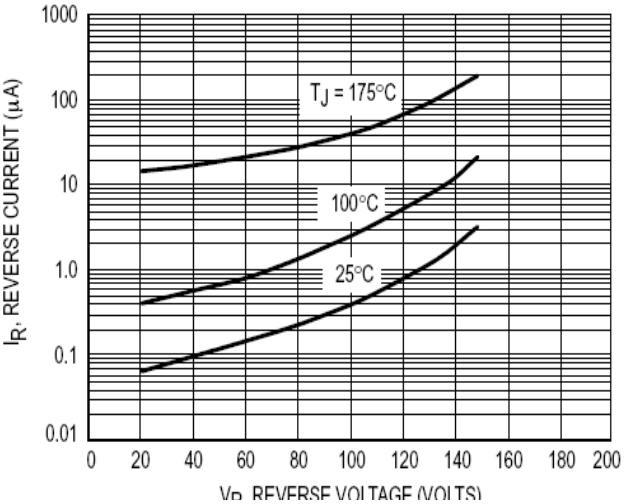


Figure 2.Typical Reverse Current

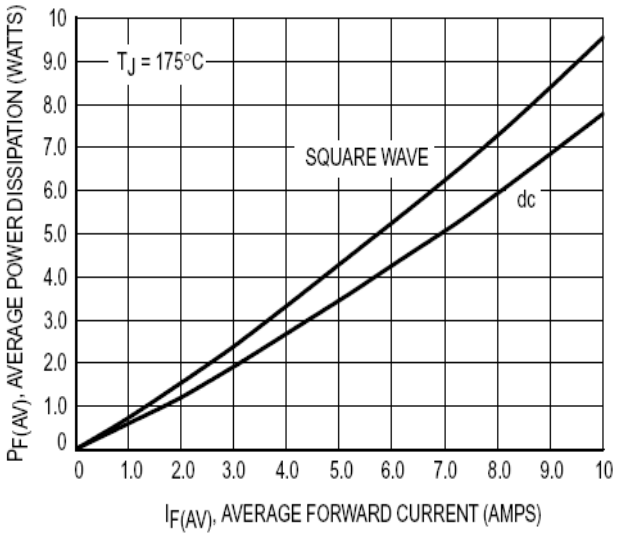


Figure 3.Current Derating, Case

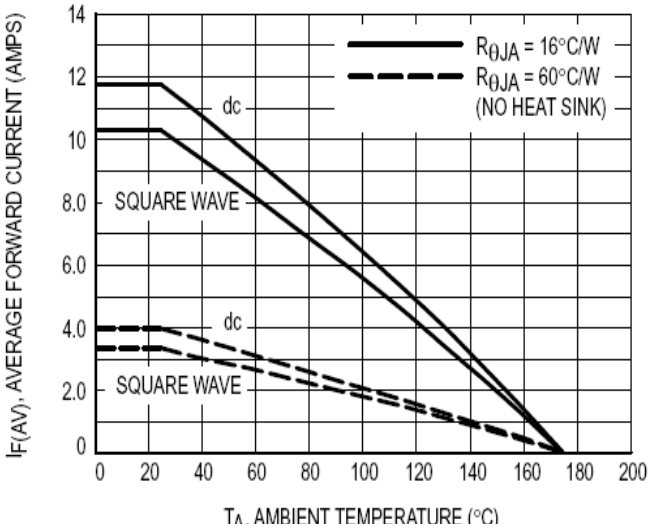


Figure 4.Current Derating, Ambient

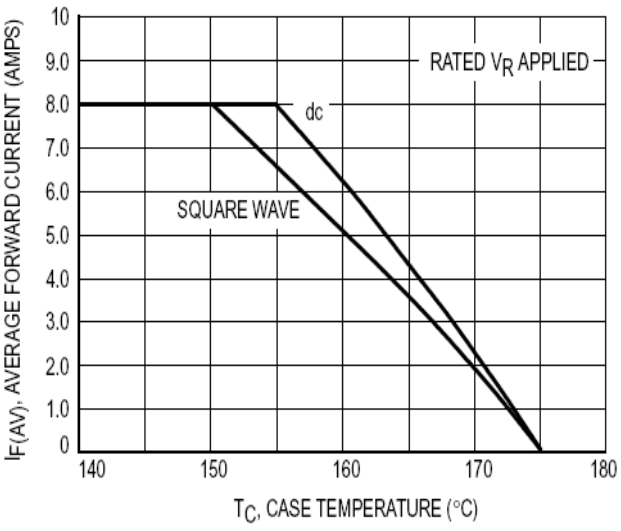
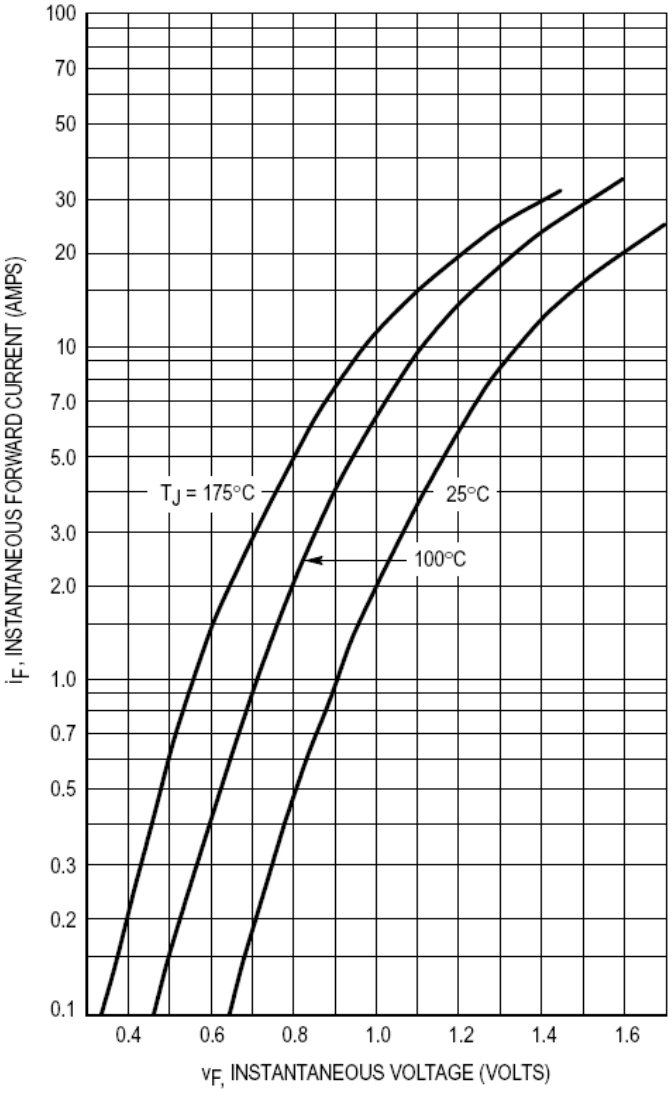


Figure 5.Power Dissipation



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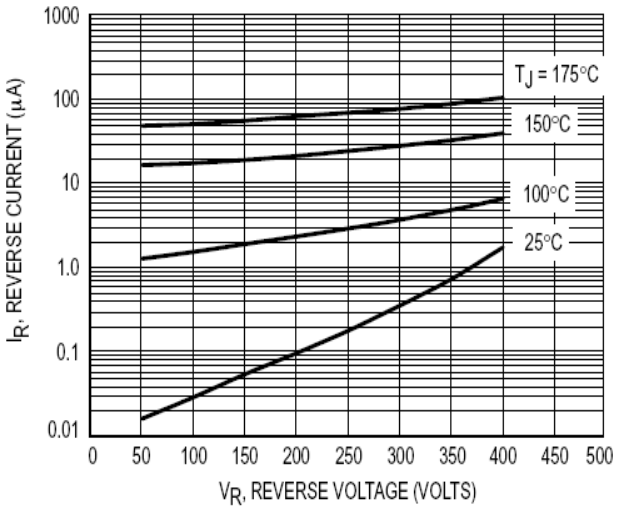

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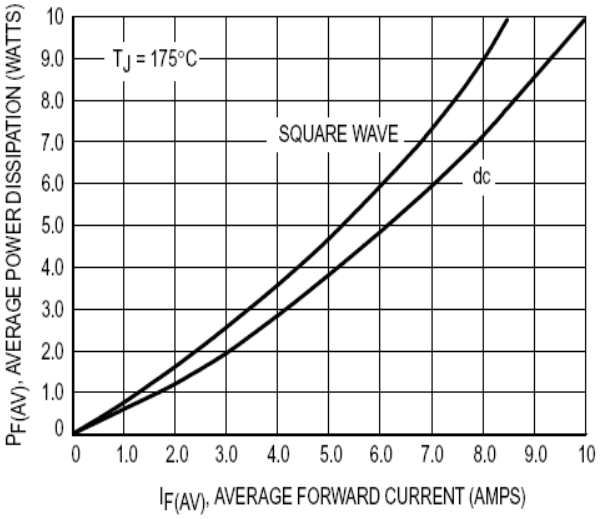

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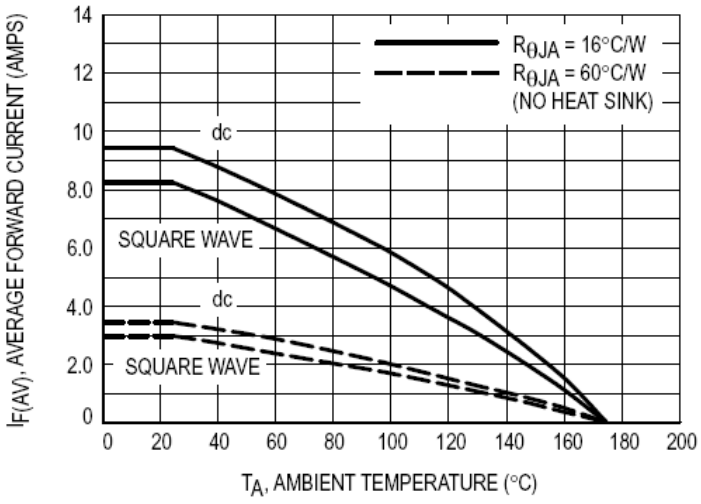

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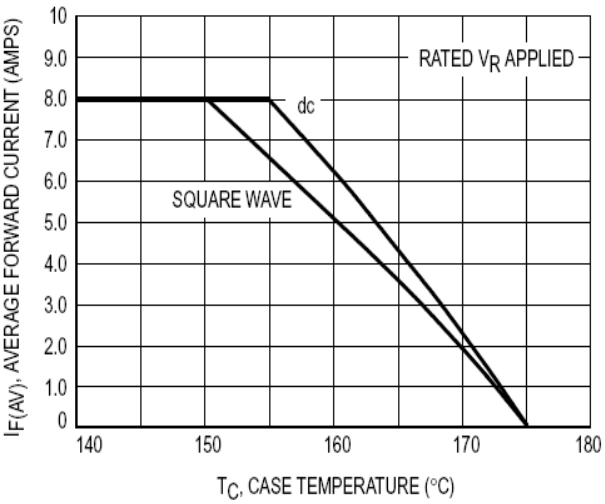
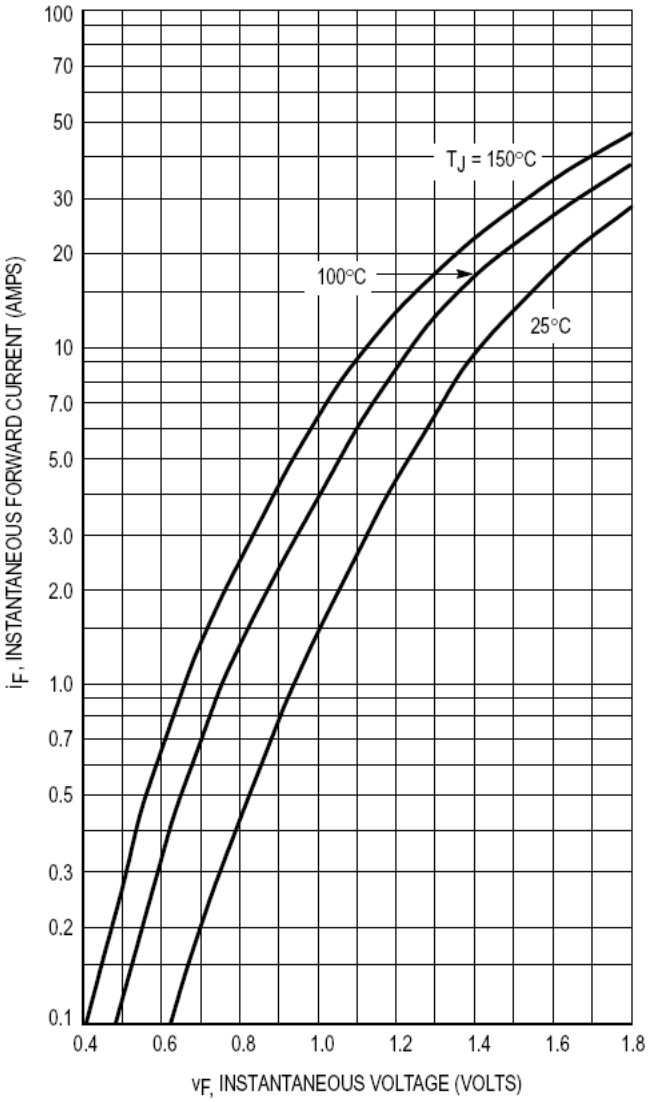


Figure 5.Power Dissipation



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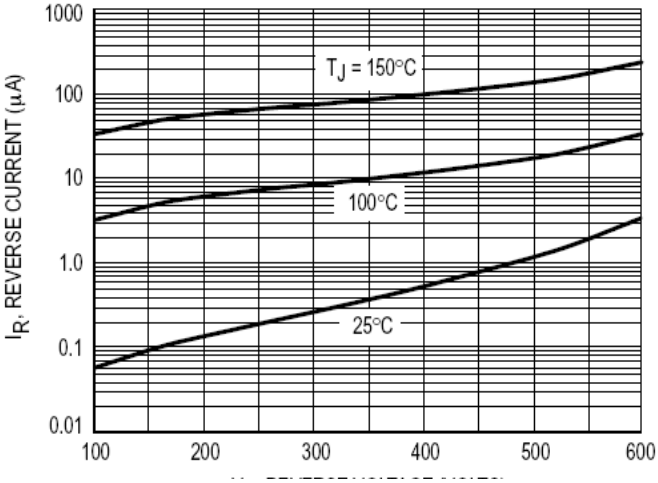
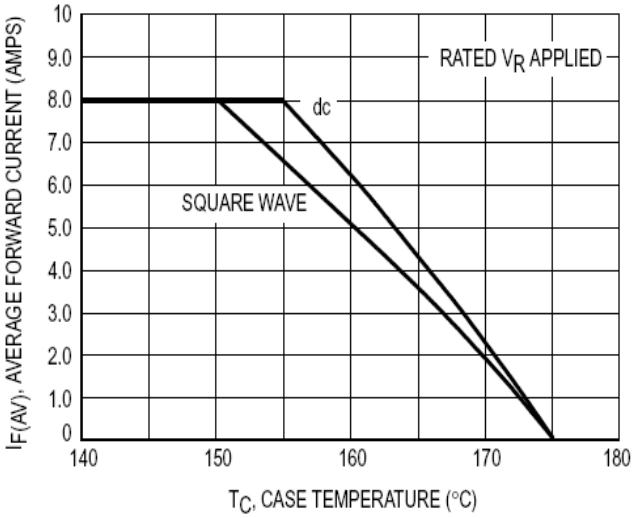


Figure 2.Typical Reverse Current



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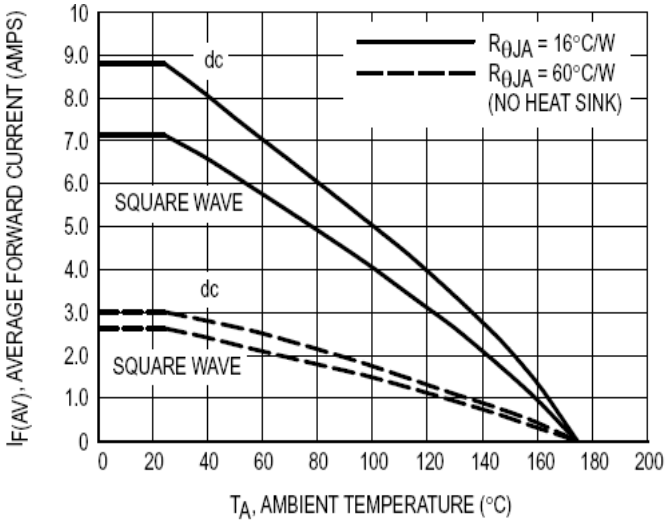

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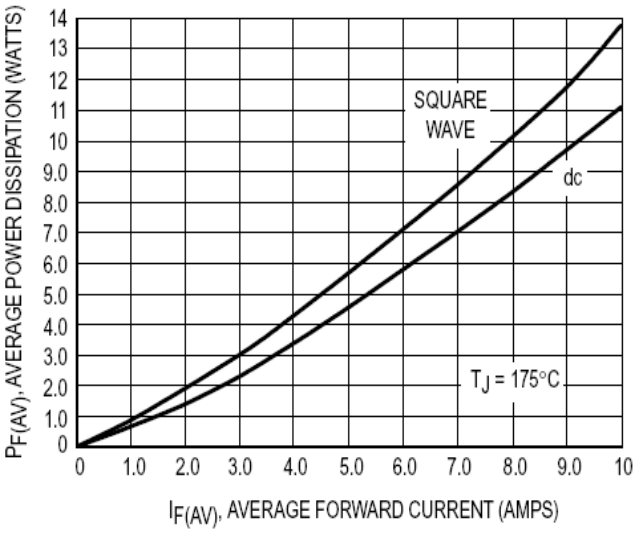
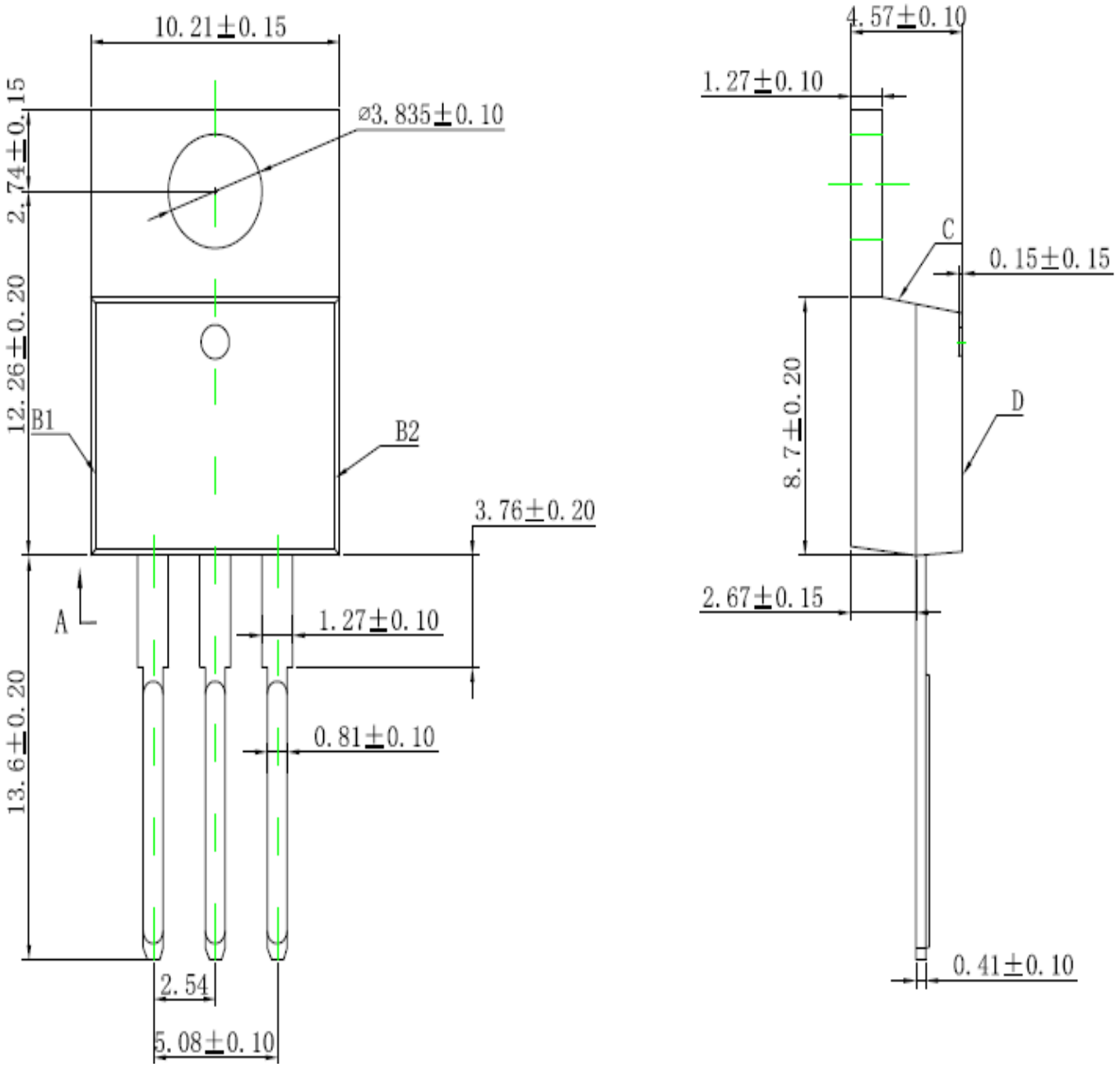


Figure 5.Power Dissipation

TO-220AB


10.21±0.15
ø3.835±0.10
2.74±0.15
12.26±0.20
B1
B2
3.76±0.20
A
1.27±0.10
0.81±0.10
13.6±0.20
2.54
5.08±0.10
4.57±0.10
1.27±0.10
C
0.15±0.15
8.7±0.20
D
2.67±0.15
0.41±0.10