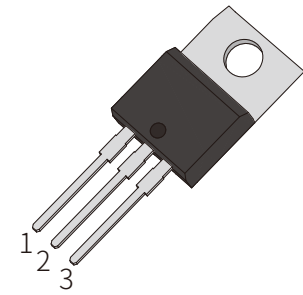


## FEATURES

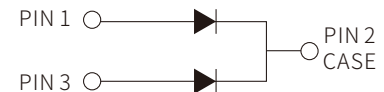
- | Construction Utilizes Void-free Molded Plastic Technique
- | Low Reverse Leakage
- | High Forward Surge Current Capability
- | Meet AEC-Q101 Requirements



TO-220AB

## MECHANICAL DATA

- | Case : Molded Plastic Body
- | Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- | Mounting Position : Any



Schematic Symbol

## APPROVALS

<b>RoHS</b>	Compliance with 2011/65/EU
<b>HF</b>	Compliance with IEC61249-2-21:2003

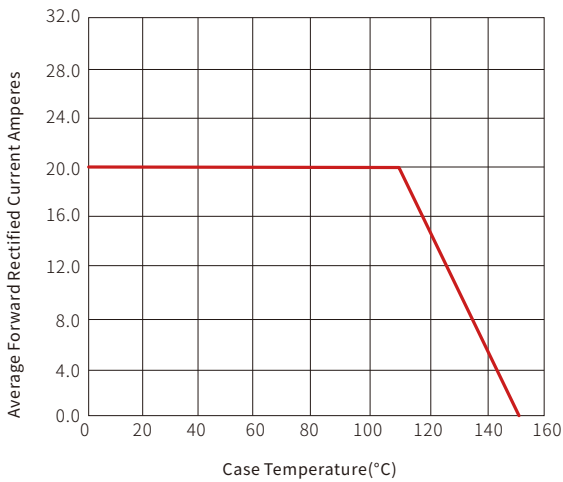
## MAXIMUM RATINGS (T<sub>A</sub>=25°C )

Parameter	Symbol	SF 2005FCTQ	SF 2010FCTQ	SF 2020FCTQ	SF 2040FCTQ	SF 2050FCTQ	SF 2060FCTQ	Unit
		SF 2005FCTQ	SF 2010FCTQ	SF 2020FCTQ	SF 2040FCTQ	SF 2050FCTQ	SF 2060FCTQ	
Marking		SF 2005FCTQ	SF 2010FCTQ	SF 2020FCTQ	SF 2040FCTQ	SF 2050FCTQ	SF 2060FCTQ	
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	500	600	V
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	350	420	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	500	600	V
Maximum Average Forward Rectified Current at T <sub>c</sub> =110°C	per device	20.0						A
	per diode	10.0						
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed On Rated Load	I <sub>FSM</sub>	200.0						A
Maximum Instantaneous Forward Voltage per Diode at 10.0A	V <sub>F</sub>	1.0		1.3		2.0		V
Maximum DC Reverse Current at Rated DC Blocking Voltage	T <sub>A</sub> =25°C	10						μA
	T <sub>A</sub> =125°C	500						μA
Maximum Reverse Recovery Time <sup>(Note 1)</sup>	T <sub>rr</sub>	35						ns
Typical Thermal Resistance	R <sub>θJC</sub>	3.5						°C/W
Operating Junction Temperature Range	T <sub>J</sub>	-55 to +150						°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150						°C

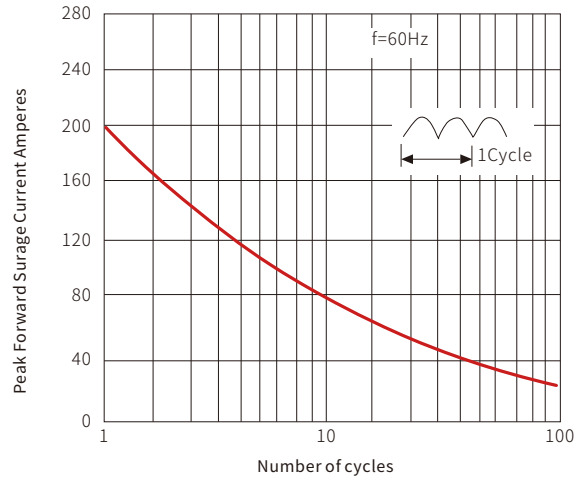
 Note:1.Reverse recovery time test condition: I<sub>F</sub>=0.5A I<sub>R</sub>=1.0A I<sub>rr</sub>=0.25A

# CHARACTERISTIC CURVES

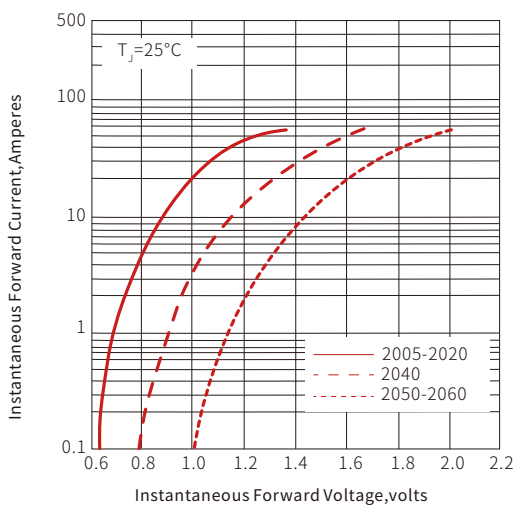
**Fig. 1- Derating Curve Output Rectified Current**



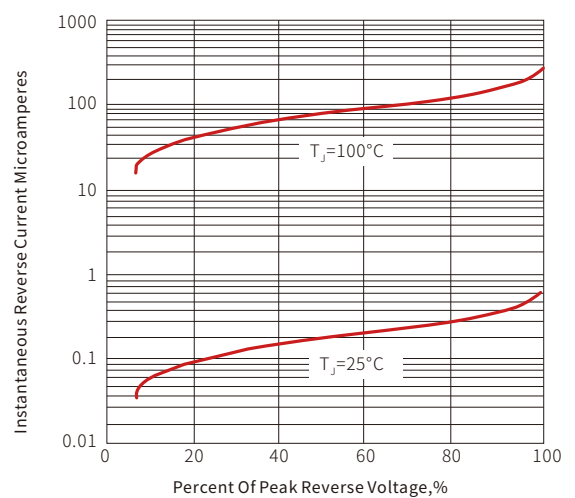
**Fig. 2- Maximum Non-Repetitive Peak Forward Surge Current Perleg**



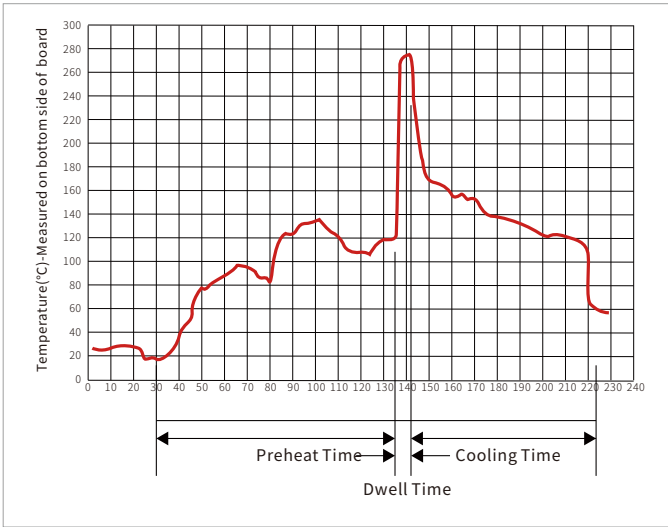
**Fig. 3- Typical Forward Voltage Characteristics**



**Fig. 4- Typical Reverse Leakage Characteristics**

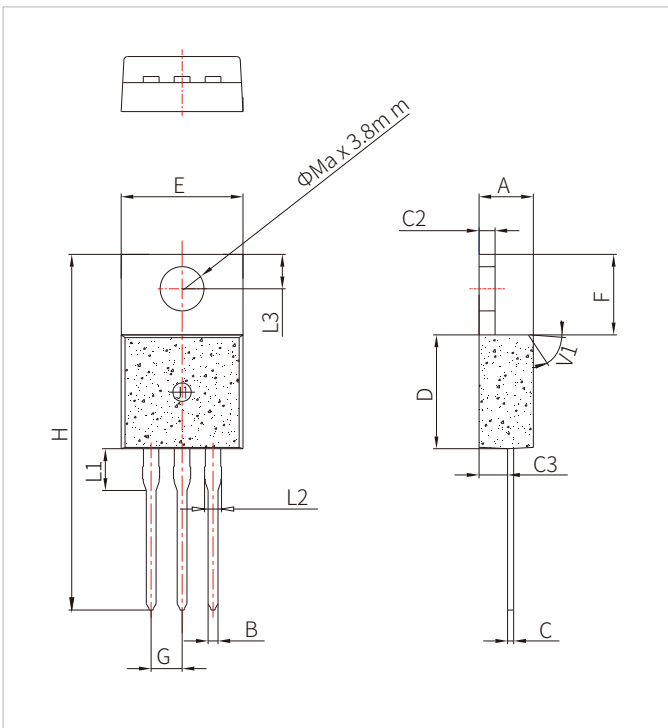


## WAVE SOLDERING



Wave Parameter		Lead-free assembly
Pre Heat	Temperature Min	100°C
	Temperature Max	150°C
	Time(min to max)	60 – 180 secs
Solder pot Temperature		280°C Max
Solder Dwell Time		2-5 seconds

## TO-220AB PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.55		6.95	0.258		0.274
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.75			0.148	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	

## ORDERING INFORMATION

Part Number	Component Package	QTY/Tube	QTY/Box	QTY/Carton
SF2005FCTQ-SF2060FCTQ	TO-220AB	50PCS	1000PCS	5000PCS

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