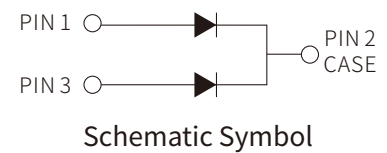
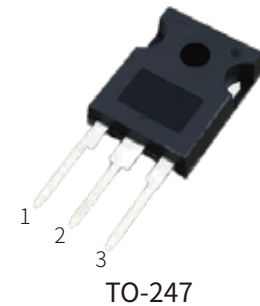


## FEATURES

- | Super Fast Switching For High Efficiency
- | Low Reverse Leakage
- | High Forward Surge Current Capability

## PRIMARY USE

- | Mainly Used In Switching Power Supply, PWM Pulse Width Modulator, inverter as A Freewheeling And Other Electronic Circuits, High-Frequency Rectifier Diode, Diode or Damping Diode use



## APPROVALS

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

## MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ )

Parameter	Symbol	Value	Unit
Maximal Inverted Repetitive Peak Voltage	$V_{RRM}$	400	V
Average Rectified Forward Current (Rated VR-20Khz Square Wave) - 50% duty cycle	$I_{FAV}$	60	A
Max.forward Surge Current ,8.3ms Single Half Sine-Wave Superimposed On Rated Load	$I_{FSM}$	$340 \times 2$	A
Operating Junction Temperature	$T_J$	-40 to 175	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-40 to 175	$^{\circ}\text{C}$
Typical Thermal Resistance(per leg) Package=TO-247	$R_{\theta JC}$	0.5	$^{\circ}\text{C}/\text{W}$

## ELECTRICAL CHARACTERISTICS( $T_A=25^{\circ}\text{C}$ )

Item	Test Conditions	Min.	Typ.	Max.	Unit
$V_B$	$I_R=100\mu\text{A}, T_J=25^{\circ}\text{C}$	400			V
$I_R$	$V_R=400\text{V}, T_J=25^{\circ}\text{C}$			0.01	mA
	$V_R=400\text{V}, T_J=125^{\circ}\text{C}$			0.10	
$V_F$	$I_F=30\text{A}$ ( $I_{FAV}=30\text{A}\times 2$ )	$T_J=25^{\circ}\text{C}$	1.2	1.4	V
		$T_J=125^{\circ}\text{C}$		1.2	V
$T_{RR}$	$I_F=0.5\text{A}, I_R=1.0\text{A}, I_{REC}=0.25\text{A}$			50	nS

## CHARACTERISTIC CURVES

Fig1: The Forward Voltage And Forward Current Curve

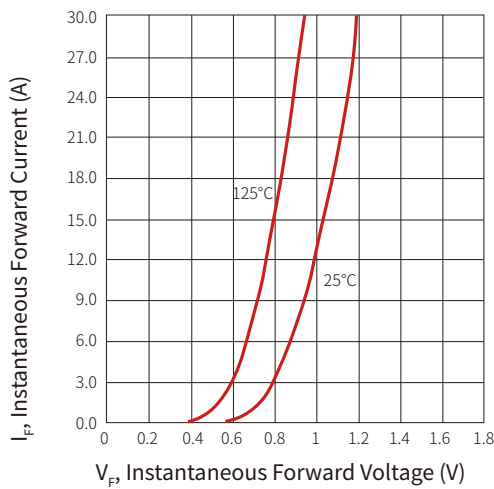
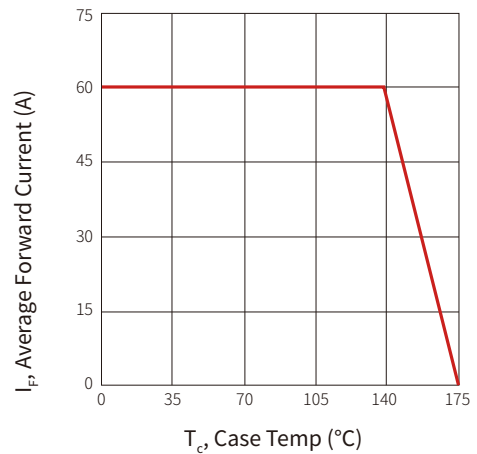
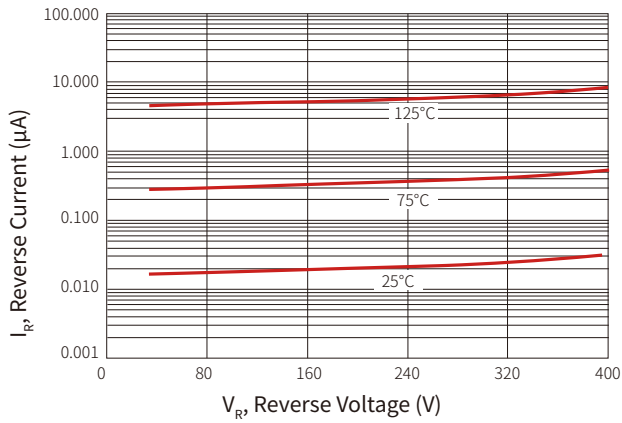
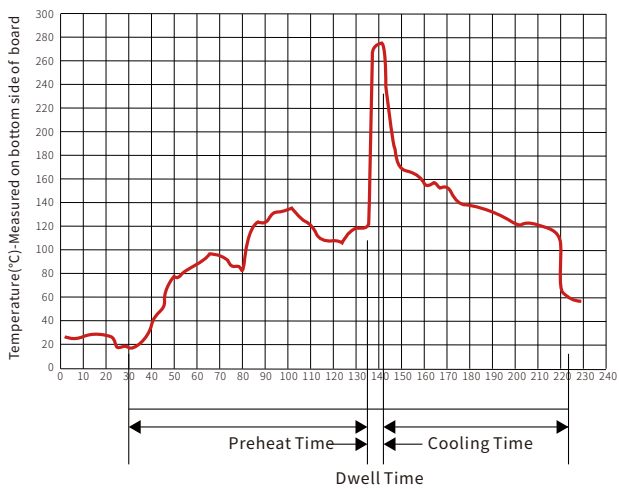


Fig2: Current Derating Curve, Per Element



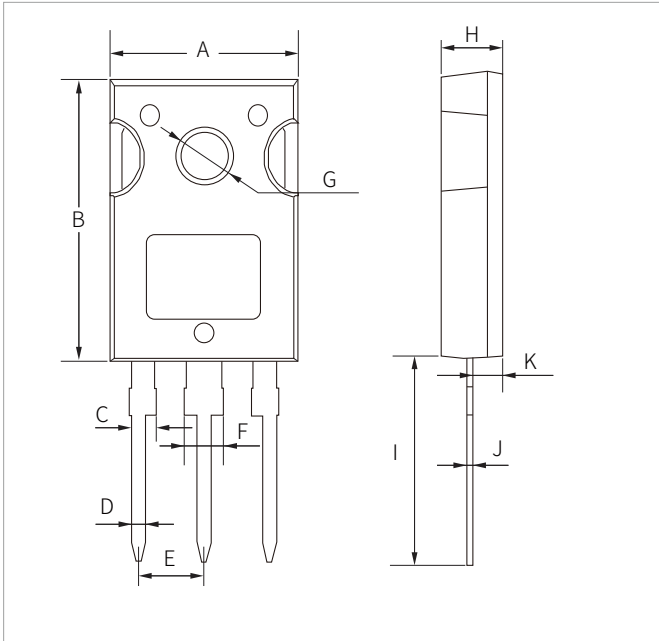
**FIG3: The Reverse Leak Current And The Reverse Voltage (Single-Device) Curve.**


## 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-247 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	15.4	15.8	0.606	0.662
B	19.5	20.5	0.767	0.807
C	1.8	2.2	0.070	0.087
D	1.15	1.25	0.045	0.050
E	5.2	5.7	0.204	0.225
F	2.8	3.2	0.110	0.126
G	3.4	3.8	0.133	0.149
H	4.8	5.0	0.188	0.204
I	14.0	14.5	0.550	0.570
J	0.4	0.7	0.015	0.029
K	2.4		0.095	

## ORDERING INFORMATION

Part Number	Component Package	Marking	QTY/Tube	QTY/Box	QTY/Carton
SFP6004	TO-247	SFP6004	30PCS	450PCS	2250PCS

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