Excellent Integrated System Limited

Stocking Distributor

Click to view price, real time Inventory, Delivery & Lifecycle Information:

IXYS Corporation
VBE60-06A

For any questions, you can email us directly:
sales@integrated-circuit.com

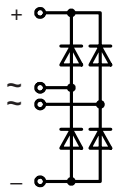
Distributor of IXYS Corporation: Excellent Integrated System Limited
Datasheet of VBE60-06A - DIODE BRIDGE FAST DIODE SOT-227B
Contact us: sales@integrated-circuit.com Website: www.integrated-circuit.com

IXYS | Advanced Technical Information | **VBE 60-06A**

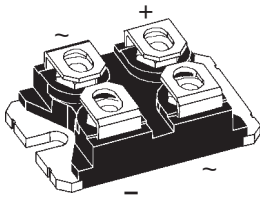
Single Phase Rectifier Bridge
with Fast Recovery Epitaxial Diodes (FRED)

I_{dAV} = 60 A
V_{RRM} = 600 V
t_{rr} = 35 ns

V_{RSM} V	V_{RRM} V	Type
600	600	VBE 60-06A



miniBLOC, SOT-227 B



Symbol	Conditions	Maximum Ratings	
I_{FRMS}		70	A
I_{dAV} ①	rect., d = 0.5; T_C = 90°C	60	A
I_{FSM}	T_{VJ} = 45°C; V_R = 0;	250	A
I^2t	t_p = 10 ms (50 Hz), sine	315	A^2s
E_{AS}	T_{VJ} = 25°C; non-repetitive I_{AS} = 1.3 A; L = 180 µH	0.2	mJ
I_{AR}	$V_A = 1.5 \cdot V_R$ typ.; f = 10 kHz; repetitive	0.1	A
T_{VJ}		-40...+150	°C
T_{VJM}		150	°C
T_{stg}		-40...+150	°C
P_{tot}	T_C = 25°C	140	W
V_{ISOL}	50/60 Hz, RMS $I_{ISOL} \leq$ 1 mA	2500	V~
M_d	mounting torque (M4) terminal connection torque (M4)	1.1-1.5/9-13 1.1-1.5/9-13	Nm/lb.in. Nm/lb.in.
Weight	typical	30	g

Symbol	Conditions	Characteristic max. Values	
I_R ②	$V_R = V_{RRM}$; T_{VJ} = 25°C	0.15	mA
	$V_R = V_{RRM}$; T_{VJ} = 125°C	1	mA
V_F ③	I_F = 30 A; T_{VJ} = 125°C	1.26	V
	T_{VJ} = 25°C	1.54	V
R_{thJC}		1.15	K/W
R_{thCH}		typ. 0.1	K/W
t_{rr}	I_F = 1 A; -di/dt = 200 A/µs; V_R = 30 V; T_{VJ} = 25°C	typ. 35	ns
I_{RM}	V_R = 100 V; I_F = 50 A; $-di_F/dt$ = 100 A/µs T_{VJ} = 100°C	typ. 5.5	A

Pulse test: ① for resistive load at bridge output.
② Pulse Width = 5 ms, Duty Cycle < 2.0 %
③ Pulse Width = 300 µs, Duty Cycle < 2.0 %

Data according to IEC 60747 and per diode unless otherwise specified

IXYS reserves the right to change limits, Conditions and dimensions.

Features
- International standard package miniBLOC
- Isolation voltage 2500 V~
- single Phase Rectifier Bridge with FREDs
- Planar passivated chips
- Very short recovery time
- Extremely low switching losses
- Low I_{RM}-values
- Soft recovery behaviour

Applications
- Supplies for DC power equipment
- Input and output rectifiers for high frequency
- Battery DC power supplies
- Field supply for DC motors

Advantages
- Avalanche voltage rated for reliable operation
- Soft reverse recovery for low EMI/RFI
- Low I_{RM} reduces:
  - Power dissipation within the diode
  - Turn-on loss in the commutating switch

Dimensions see Outlines.pdf

342

© 2003 IXYS All rights reserved

EIS electronic components
Distributor of IXYS Corporation: Excellent Integrated System Limited
Datasheet of VBE60-06A - DIODE BRIDGE FAST DIODE SOT-227B
Contact us: sales@integrated-circuit.com Website: www.integrated-circuit.com

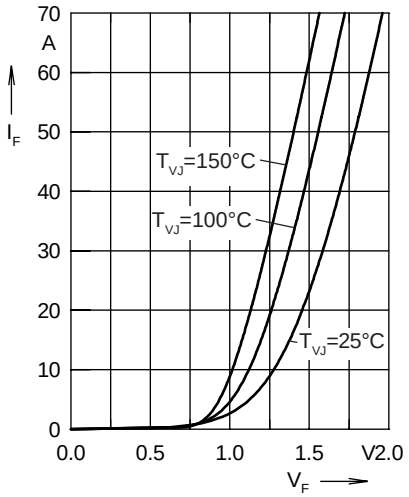


Fig. 1 Forward current I_F versus V_F

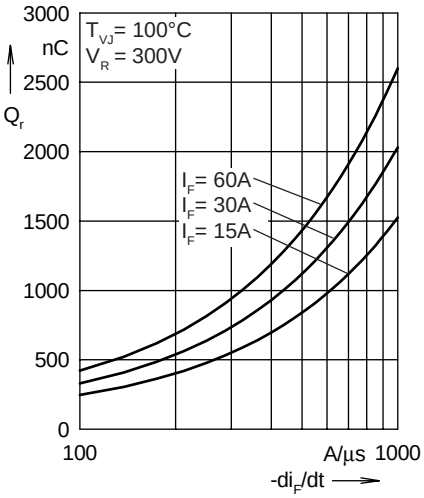


Fig. 2 Reverse recovery charge Q_r versus $-di_F/dt$

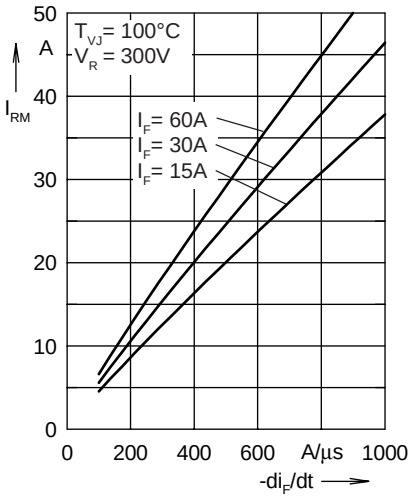


Fig. 3 Peak reverse current I_{RM} versus $-di_F/dt$

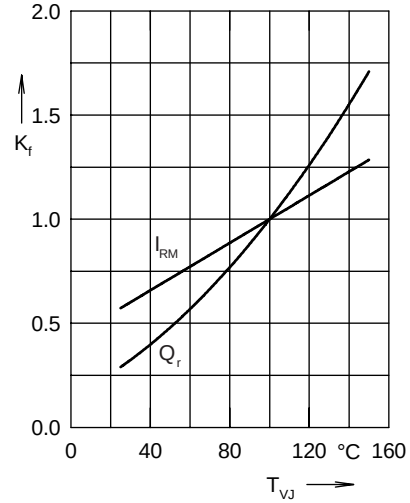


Fig. 4 Dynamic parameters Q_r, I_{RM} versus T_{VJ}

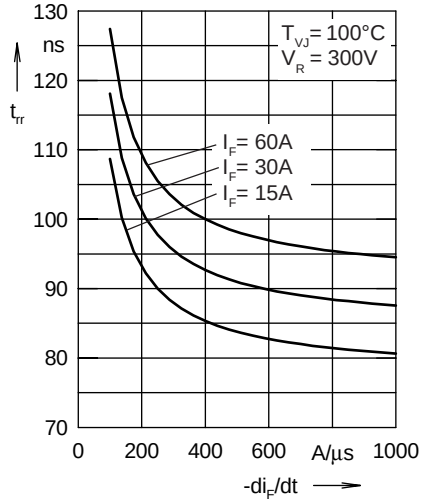


Fig. 5 Recovery time t_{rr} versus $-di_F/dt$

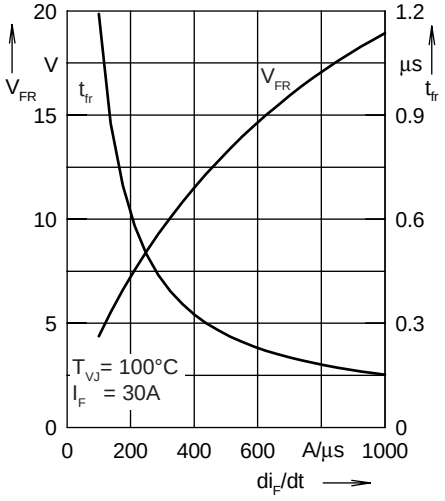


Fig. 6 Peak forward voltage V_{FR} and t_{fr} versus di_F/dt

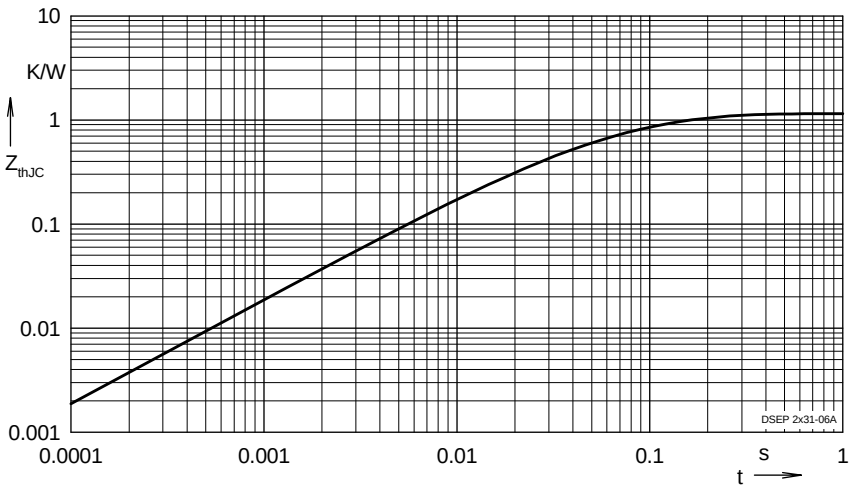


Fig. 7 Transient thermal resistance junction to case

Constants for Z_{thJC} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.436	0.0055
2	0.482	0.0092
3	0.117	0.0007
4	0.115	0.0418

NOTE: Fig. 2 to Fig. 6 shows typical values

IXYS reserves the right to change limits, Conditions and dimensions.

© 2003 IXYS All rights reserved