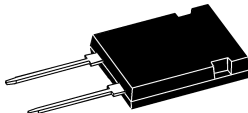
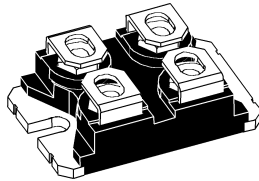
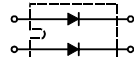


Package style		Voltage V_{RRM} V	Current I_{FAV} A	t_{rr} ns	Type	Circuit Diagram	Page D3 -
1 ISOPLUS 247™ 	1	600	9	15	DSEP 9-06CR		2
		600	17	15	DSS 17-06CR		3
		600	30	20	DSEP30-06CR		4
	2	1200	15	20	DSEP15-12CR		5
		1200	30	30	DSEP30-12CR		6
	2 SOT-227 B, miniBLOC 	2	600	2x 35	20	DSEP 2x35-06C	
1200			2x 25	20	DSEP 2x25-12C	8	

Dimensions

9

HiPerDynFRED™ Epitaxial Diode

with soft recovery

(Electrically Isolated Back Surface)

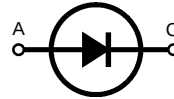
$$I_{FAV} = 9 \text{ A}$$

$$V_{RRM} = 600 \text{ V}$$

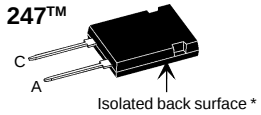
$$t_{rr} = 15 \text{ ns}$$

Preliminary Data

V_{RSM} V	V_{RRM} V	Type
600	600	DSEP 9-06CR



ISOPLUS 247™



A = Anode, C = Cathode

* Patent pending

Symbol	Conditions	Maximum Ratings	
I_{FRMS}		50	A
I_{FAVM}	$T_C = 140^\circ\text{C}$; rectangular, $d = 0.5$	9	A
I_{FRM}	$t_p < 10 \mu\text{s}$; rep. rating, pulse width limited by T_{VJM}	tbd	A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$; $t_p = 10 \text{ ms}$ (50 Hz), sine	80	A
E_{AS}	$T_{VJ} = 25^\circ\text{C}$; non-repetitive $I_{AS} = 2 \text{ A}$; $L = 180 \mu\text{H}$	0.5	mJ
I_{AR}	$V_A = 1.5 \cdot V_R$ typ.; $f = 10 \text{ kHz}$; repetitive	0.2	A
T_{VJ}		-55...+175	$^\circ\text{C}$
T_{VJM}		175	$^\circ\text{C}$
T_{stg}		-55...+150	$^\circ\text{C}$
P_{tot}	$T_C = 25^\circ\text{C}$	150	W
V_{ISOL}	50/60 Hz RMS; $I_{ISOL} \leq 1 \text{ mA}$	2500	V~
F_C	mounting force with clip	20...120	N
Weight	typical	6	g

Features

- Silicon chip on Direct-Copper-Bond substrate
- High power dissipation
- Isolated mounting surface
- 2500V electrical isolation
- Low cathode to tab capacitance (<25pF)
- International standard package
- Planar passivated chips
- Very short recovery time
- Extremely low switching losses
- Low I_{RM} -values
- Soft recovery behaviour
- Epoxy meets UL 94V-0
- Isolated and UL registered E153432

Applications

- Antiparallel diode for high frequency switching devices
- Antisaturation diode
- Snubber diode
- Free wheeling diode in converters and motor control circuits
- Rectifiers in switch mode power supplies (SMPS)
- Inductive heating
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders

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 page D3 - 9

Symbol	Conditions	Characteristic Values	
		typ.	max.
I_R ①	$T_{VJ} = 25^\circ\text{C}$ $V_R = V_{RRM}$ $T_{VJ} = 150^\circ\text{C}$ $V_R = V_{RRM}$	50 0.2	μA mA
V_F ②	$I_F = 9 \text{ A}$; $T_{VJ} = 150^\circ\text{C}$ $T_{VJ} = 25^\circ\text{C}$	2.9 4.0	V V
R_{thJC} R_{thCH}		0.25	1 K/W K/W
t_{rr}	$I_F = 1 \text{ A}$; $-di/dt = 200 \text{ A}/\mu\text{s}$; $V_R = 30 \text{ V}$; $T_{VJ} = 25^\circ\text{C}$	15	ns
I_{RM}	$V_R = 100 \text{ V}$; $I_F = 10 \text{ A}$; $-di_F/dt = 100 \text{ A}/\mu\text{s}$ $T_{VJ} = 100^\circ\text{C}$	3.5	4.1 A

Pulse test: ① Pulse Width = 5 ms, Duty Cycle < 2.0 %
 ② 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, test conditions and dimensions.

HiPerDyn™ Schottky Diode (Electrically Isolated Back Surface)

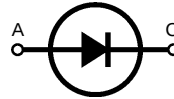
$$I_{FAV} = 17 \text{ A}$$

$$V_{RRM} = 600 \text{ V}$$

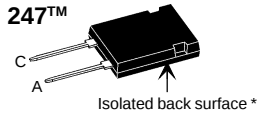
$$t_{rr} = 45 \text{ ns}$$

Preliminary Data

V_{RSM} V	V_{RRM} V	Type
600	600	DSS 17-06CR



ISOPLUS 247™



A = Anode, C = Cathode

* Patent pending

Symbol	Conditions	Maximum Ratings	
I_{FRMS}		50	A
I_{FAVM}	$T_C = 95^\circ\text{C}$; rectangular, $d = 0.5$	17	A
I_{FRM}	$t_p < 10 \mu\text{s}$; rep. rating, pulse width limited by T_{VJM}	tbd	A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$; $t_p = 10 \text{ ms}$ (50 Hz), sine	200	A
E_{AS}	$T_{VJ} = 25^\circ\text{C}$; non-repetitive $I_{AS} = 2 \text{ A}$; $L = 180 \mu\text{H}$	tbd	mJ
I_{AR}	$V_A = 1.5 \cdot V_R$ typ.; $f = 10 \text{ kHz}$; repetitive	tbd	A
T_{VJ}		-55...+175	$^\circ\text{C}$
T_{VJM}		175	$^\circ\text{C}$
T_{stg}		-55...+150	$^\circ\text{C}$
P_{tot}	$T_C = 25^\circ\text{C}$	105	W
V_{ISOL}	50/60 Hz RMS; $I_{ISOL} \leq 1 \text{ mA}$	2500	V~
F_C	mounting force with clip	20...120	N
Weight	typical	6	g

Features

- Silicon chip on Direct-Copper-Bond substrate
- High power dissipation
- Isolated mounting surface
- 2500V electrical isolation
- Low cathode to tab capacitance (<25pF)
- International standard package
- Planar passivated chips
- Very short recovery time
- Extremely low switching losses
- Low I_{RM} -values
- Soft recovery behaviour
- Epoxy meets UL 94V-0
- Isolated and UL registered E153432

Applications

- Antiparallel diode for high frequency switching devices
- Antisaturation diode
- Snubber diode
- Free wheeling diode in converters and motor control circuits
- Rectifiers in switch mode power supplies (SMPS)
- Inductive heating
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders

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

Symbol	Conditions	Characteristic Values	
		typ.	max.
I_R ①	$T_{VJ} = 25^\circ\text{C}$ $V_R = V_{RRM}$ $T_{VJ} = 125^\circ\text{C}$ $V_R = V_{RRM}$		0.5 mA 5 mA
V_F ②	$I_F = 15 \text{ A}$; $T_{VJ} = 125^\circ\text{C}$ $T_{VJ} = 25^\circ\text{C}$		2.71 V 3.32 V
R_{thJC} R_{thCH}		0.25	1.4 K/W K/W
t_{rr}	$I_F = 10 \text{ A}$; $-di/dt = 100 \text{ A}/\mu\text{s}$; $V_R = 100 \text{ V}$; $T_{VJ} = 25^\circ\text{C}$	45	ns
I_{RM}	$V_R = 100 \text{ V}$; $I_F = 10 \text{ A}$; $-di_F/dt = 100 \text{ A}/\mu\text{s}$ $T_{VJ} = 25^\circ\text{C}$	4.0	A

Pulse test: ① Pulse Width = 5 ms, Duty Cycle < 2.0 %
② 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, test conditions and dimensions.

HiPerDynFRED™ Epitaxial Diode

with soft recovery

(Electrically Isolated Back Surface)

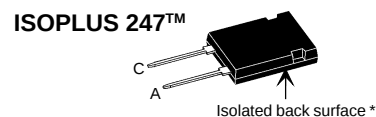
$$I_{FAV} = 30 \text{ A}$$

$$V_{RRM} = 600 \text{ V}$$

$$t_{rr} = 20 \text{ ns}$$

Preliminary Data

V_{RSM} V	V_{RRM} V	Type
600	600	DSEP 30-06CR



A = Anode, C = Cathode

* Patent pending

Symbol	Conditions	Maximum Ratings	
I_{FRMS}		70	A
I_{FAVM}	$T_C = 135^\circ\text{C}$; rectangular, $d = 0.5$	30	A
I_{FRM}	$t_p < 10 \mu\text{s}$; rep. rating, pulse width limited by T_{VJM}	tbd	A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$; $t_p = 10 \text{ ms}$ (50 Hz), sine	300	A
E_{AS}	$T_{VJ} = 25^\circ\text{C}$; non-repetitive $I_{AS} = 3 \text{ A}$; $L = 180 \mu\text{H}$	1.2	mJ
I_{AR}	$V_A = 1.5 \cdot V_R$ typ.; $f = 10 \text{ kHz}$; repetitive	0.3	A
T_{VJ}		-55...+175	$^\circ\text{C}$
T_{VJM}		175	$^\circ\text{C}$
T_{stg}		-55...+150	$^\circ\text{C}$
P_{tot}	$T_C = 25^\circ\text{C}$	250	W
V_{ISOL}	50/60 Hz RMS; $I_{ISOL} \leq 1 \text{ mA}$	2500	V~
F_C	mounting force with clip	20...120	N
Weight	typical	6	g

Features

- Silicon chip on Direct-Copper-Bond substrate
- High power dissipation
- Isolated mounting surface
- 2500V electrical isolation
- Low cathode to tab capacitance (<25pF)
- International standard package
- Planar passivated chips
- Very short recovery time
- Extremely low switching losses
- Low I_{RM} -values
- Soft recovery behaviour
- Epoxy meets UL 94V-0
- Isolated and UL registered E153432

Applications

- Antiparallel diode for high frequency switching devices
- Antisaturation diode
- Snubber diode
- Free wheeling diode in converters and motor control circuits
- Rectifiers in switch mode power supplies (SMPS)
- Inductive heating
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders

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

Symbol	Conditions	Characteristic Values	
		typ.	max.
I_R ①	$T_{VJ} = 25^\circ\text{C}$ $V_R = V_{RRM}$ $T_{VJ} = 150^\circ\text{C}$ $V_R = V_{RRM}$	250 1	μA mA
V_F ②	$I_F = 30 \text{ A}$; $T_{VJ} = 150^\circ\text{C}$ $T_{VJ} = 25^\circ\text{C}$	1.79 2.46	V V
R_{thJC} R_{thCH}	with heatsink compound	0.25	0.6 K/W K/W
t_{rr}	$I_F = 1 \text{ A}$; $-di/dt = 200 \text{ A}/\mu\text{s}$; $V_R = 30 \text{ V}$; $T_{VJ} = 25^\circ\text{C}$	20	ns
I_{RM}	$V_R = 100 \text{ V}$; $I_F = 50 \text{ A}$; $-di_F/dt = 100 \text{ A}/\mu\text{s}$ $T_{VJ} = 100^\circ\text{C}$	4.5	7.0 A

Pulse test: ① Pulse Width = 5 ms, Duty Cycle < 2.0 %
② 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, test conditions and dimensions.

Dimensions see page D3 - 9

HiPerDynFRED™ Epitaxial Diode

with soft recovery

(Electrically Isolated Back Surface)

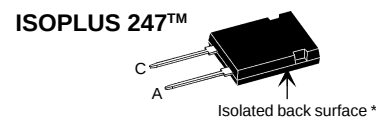
$$I_{FAV} = 15 \text{ A}$$

$$V_{RRM} = 1200 \text{ V}$$

$$t_{rr} = 20 \text{ ns}$$

Preliminary Data

V_{RSM} V	V_{RRM} V	Type
1200	1200	DSEP 15-12CR



A = Anode, C = Cathode

* Patent pending

Symbol	Conditions	Maximum Ratings	
I_{FRMS}		50	A
I_{FAVM}	$T_C = 130^\circ\text{C}$; rectangular, $d = 0.5$	15	A
I_{FRM}	$t_p < 10 \mu\text{s}$; rep. rating, pulse width limited by T_{VJM}	tbd	A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$; $t_p = 10 \text{ ms}$ (50 Hz), sine	110	A
E_{AS}	$T_{VJ} = 25^\circ\text{C}$; non-repetitive $I_{AS} = 1.0 \text{ A}$; $L = 180 \mu\text{H}$	0.1	mJ
I_{AR}	$V_A = 1.25 \cdot V_R$ typ.; $f = 10 \text{ kHz}$; repetitive	0.1	A
T_{VJ}		-55...+175	$^\circ\text{C}$
T_{VJM}		175	$^\circ\text{C}$
T_{stg}		-55...+150	$^\circ\text{C}$
P_{tot}	$T_C = 25^\circ\text{C}$	150	W
V_{ISOL}	50/60 Hz RMS; $I_{ISOL} \leq 1 \text{ mA}$	2500	V~
F_C	mounting force with clip	20...120	N
Weight	typical	6	g

Features

- Silicon chip on Direct-Copper-Bond substrate
- High power dissipation
- Isolated mounting surface
- 2500V electrical isolation
- Low cathode to tab capacitance (<25pF)
- International standard package
- Planar passivated chips
- Very short recovery time
- Extremely low switching losses
- Low I_{RM} -values
- Soft recovery behaviour
- Epoxy meets UL 94V-0
- Isolated and UL registered E153432

Applications

- Antiparallel diode for high frequency switching devices
- Antisaturation diode
- Snubber diode
- Free wheeling diode in converters and motor control circuits
- Rectifiers in switch mode power supplies (SMPS)
- Inductive heating
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders

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

Symbol	Conditions	Characteristic Values	
		typ.	max.
I_R ①	$T_{VJ} = 25^\circ\text{C}$ $V_R = V_{RRM}$ $T_{VJ} = 150^\circ\text{C}$ $V_R = V_{RRM}$		100 μA 0.5 mA
V_F ②	$I_F = 15 \text{ A}$; $T_{VJ} = 150^\circ\text{C}$ $T_{VJ} = 25^\circ\text{C}$		2.67 V 4.04 V
R_{thJC} R_{thCH}	with heatsink compound	0.25	1 K/W K/W
t_{rr}	$I_F = 1 \text{ A}$; $-di/dt = 200 \text{ A}/\mu\text{s}$; $V_R = 30 \text{ V}$; $T_{VJ} = 25^\circ\text{C}$	20	ns
I_{RM}	$V_R = 100 \text{ V}$; $I_F = 25 \text{ A}$; $-di_F/dt = 100 \text{ A}/\mu\text{s}$ $T_{VJ} = 100^\circ\text{C}$	4.0	4.9 A

Pulse test: ① Pulse Width = 5 ms, Duty Cycle < 2.0 %
② 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, test conditions and dimensions.

HiPerDynFRED™ Epitaxial Diode

with soft recovery

(Electrically Isolated Back Surface)

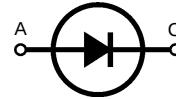
$$I_{FAV} = 30 \text{ A}$$

$$V_{RRM} = 1200 \text{ V}$$

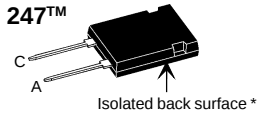
$$t_{rr} = 20 \text{ ns}$$

Preliminary Data

V_{RSM} V	V_{RRM} V	Type
1200	1200	DSEP 30-12CR



ISOPLUS 247™



A = Anode, C = Cathode

* Patent pending

Symbol	Conditions	Maximum Ratings	
I_{FRMS}		70	A
I_{FAVM}	$T_C = 115^\circ\text{C}$; rectangular, $d = 0.5$	30	A
I_{FRM}	$t_p < 10 \mu\text{s}$; rep. rating, pulse width limited by T_{VJM}	tbd	A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$; $t_p = 10 \text{ ms}$ (50 Hz), sine	250	A
E_{AS}	$T_{VJ} = 25^\circ\text{C}$; non-repetitive $I_{AS} = 1.3 \text{ A}$; $L = 180 \mu\text{H}$	0.2	mJ
I_{AR}	$V_A = 1.25 \cdot V_R$ typ.; $f = 10 \text{ kHz}$; repetitive	0.1	A
T_{VJ}		-55...+175	$^\circ\text{C}$
T_{VJM}		175	$^\circ\text{C}$
T_{stg}		-55...+150	$^\circ\text{C}$
P_{tot}	$T_C = 25^\circ\text{C}$	250	W
V_{ISOL}	50/60 Hz RMS; $I_{ISOL} \leq 1 \text{ mA}$	2500	V~
F_C	mounting force with clip	20...120	N
Weight	typical	6	g

Features

- Silicon chip on Direct-Copper-Bond substrate
- High power dissipation
- Isolated mounting surface
- 2500V electrical isolation
- Low cathode to tab capacitance (<25pF)
- International standard package
- Planar passivated chips
- Very short recovery time
- Extremely low switching losses
- Low I_{RM} -values
- Soft recovery behaviour
- Epoxy meets UL 94V-0
- Isolated and UL registered E153432

Applications

- Antiparallel diode for high frequency switching devices
- Antisaturation diode
- Snubber diode
- Free wheeling diode in converters and motor control circuits
- Rectifiers in switch mode power supplies (SMPS)
- Inductive heating
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders

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 page D3 - 9

Symbol	Conditions	Characteristic Values	
		typ.	max.
I_R ①	$T_{VJ} = 25^\circ\text{C}$ $V_R = V_{RRM}$ $T_{VJ} = 150^\circ\text{C}$ $V_R = V_{RRM}$	250 2	μA mA
V_F ②	$I_F = 30 \text{ A}$; $T_{VJ} = 150^\circ\text{C}$ $T_{VJ} = 25^\circ\text{C}$	3.1 5.0	V V
R_{thJC} R_{thCH}	with heatsink compound	0.25	K/W K/W
t_{rr}	$I_F = 1 \text{ A}$; $-di/dt = 200 \text{ A}/\mu\text{s}$; $V_R = 30 \text{ V}$; $T_{VJ} = 25^\circ\text{C}$	20	ns
I_{RM}	$V_R = 100 \text{ V}$; $I_F = 50 \text{ A}$; $-di_F/dt = 100 \text{ A}/\mu\text{s}$ $T_{VJ} = 100^\circ\text{C}$	4.0	A

Pulse test: ① Pulse Width = 5 ms, Duty Cycle < 2.0 %
② 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, test conditions and dimensions.

HiPerDynFRED™ Epitaxial Diode with soft recovery

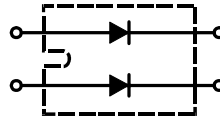
$$I_{FAV} = 2 \times 35 \text{ A}$$

$$V_{RRM} = 600 \text{ V}$$

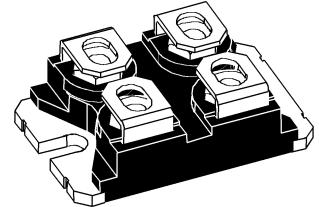
$$t_{rr} = 20 \text{ ns}$$

Preliminary Data

V_{RSM} V	V_{RRM} V	Type
600	600	DSEP 2x 35-06C



miniBLOC, SOT-227 B



Symbol	Test Conditions	Maximum Ratings	
I_{FRMS}		100	A
I_{FAVM}	$T_C = 100^\circ\text{C}$; rectangular, $d = 0.5$	35	A
I_{FRM}	$t_p < 10 \mu\text{s}$; rep. rating, pulse width limited by T_{VJM}	tbd	A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$; $t_p = 10 \text{ ms}$ (50 Hz), sine	300	A
E_{AS}	$T_{VJ} = 25^\circ\text{C}$; non-repetitive $I_{AS} = 3 \text{ A}$; $L = 180 \mu\text{H}$	1.2	mJ
I_{AR}	$V_A = 1.5 \cdot V_R$ typ.; $f = 10 \text{ kHz}$; repetitive	0.3	A
T_{VJ}		-40...+150	$^\circ\text{C}$
T_{VJM}		150	$^\circ\text{C}$
T_{stg}		-40...+150	$^\circ\text{C}$
P_{tot}	$T_C = 25^\circ\text{C}$	210	W
V_{ISOL}	50/60 Hz, RMS, $I_{ISOL} \leq 1 \text{ mA}$	2500	V~
M_d	mounting torque (M4)	1.1-1.5/9-13	Nm/lb.in.
	terminal connection torque (M4)	1.1-1.5/9-13	Nm/lb.in.
Weight	typical	30	g

Symbol	Test Conditions	Characteristic Values	
		typ.	max.
I_R ①	$V_R = V_{RRM}$; $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = 150^\circ\text{C}$		0.25 mA 1.0 mA
V_F ②	$I_F = 35 \text{ A}$; $T_{VJ} = 125^\circ\text{C}$ $T_{VJ} = 25^\circ\text{C}$		1.97 V 2.50 V
R_{thJC} R_{thCH}	with heatsink compound	0.1	0.6 K/W K/W
t_{rr}	$I_F = 1 \text{ A}$; $-di/dt = 300 \text{ A}/\mu\text{s}$; $V_R = 30 \text{ V}$; $T_{VJ} = 25^\circ\text{C}$	20	ns
I_{RM}	$V_R = 100 \text{ V}$; $I_F = 50 \text{ A}$; $-di_F/dt = 100 \text{ A}/\mu\text{s}$ $T_{VJ} = 100^\circ\text{C}$	4.5	7.0 A

Pulse test: ① Pulse Width = 5 ms, Duty Cycle < 2.0 %
② 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, test conditions and dimensions.

Features

- International standard package miniBLOC
- Isolation voltage 2500 V~
- UL registered E 72873
- 2 independent FRED in 1 package
- Planar passivated chips
- Very short recovery time
- Extremely low switching losses
- Low I_{RM} -values
- Soft recovery behaviour

Applications

- Antiparallel diode for high frequency switching devices
- Antisaturation diode
- Snubber diode
- Free wheeling diode in converters and motor control circuits
- Rectifiers in switch mode power supplies (SMPS)
- Inductive heating
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders

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 page D3 - 9

HiPerDynFRED™ Epitaxial Diode with soft recovery

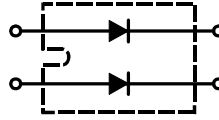
$$I_{FAV} = 2 \times 25 \text{ A}$$

$$V_{RRM} = 1200 \text{ V}$$

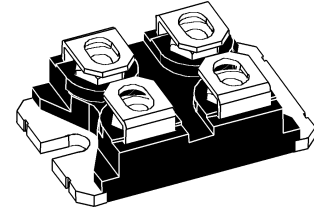
$$t_{rr} = 20 \text{ ns}$$

Preliminary Data

V_{RSM} V	V_{RRM} V	Type
1200	1200	DSEP 2x 25-12C



miniBLOC, SOT-227 B



Symbol	Test Conditions	Maximum Ratings	
I_{FRMS}		100	A
I_{FAVM}	$T_C = 95^\circ\text{C}$; rectangular, $d = 0.5$	25	A
I_{FRM}	$t_p < 10 \mu\text{s}$; rep. rating, pulse width limited by T_{VJM}	tbd	A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$; $t_p = 10 \text{ ms}$ (50 Hz), sine	250	A
E_{AS}	$T_{VJ} = 25^\circ\text{C}$; non-repetitive $I_{AS} = 1.3 \text{ A}$; $L = 180 \mu\text{H}$	0.2	mJ
I_{AR}	$V_A = 1.5 \cdot V_R$ typ.; $f = 10 \text{ kHz}$; repetitive	0.1	A
T_{VJ}		-40...+150	$^\circ\text{C}$
T_{VJM}		150	$^\circ\text{C}$
T_{stg}		-40...+150	$^\circ\text{C}$
P_{tot}	$T_C = 25^\circ\text{C}$	210	W
V_{ISOL}	50/60 Hz, RMS, $I_{ISOL} \leq 1 \text{ mA}$	2500	V~
M_d	mounting torque (M4)	1.1-1.5/9-13	Nm/lb.in.
	terminal connection torque (M4)	1.1-1.5/9-13	Nm/lb.in.
Weight	typical	30	g

Symbol	Test Conditions	Characteristic Values	
		typ.	max.
I_R ①	$V_R = V_{RRM}$; $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = 150^\circ\text{C}$	0.25 2.0	mA mA
V_F ②	$I_F = 25 \text{ A}$; $T_{VJ} = 125^\circ\text{C}$ $T_{VJ} = 25^\circ\text{C}$	3.30 4.80	V V
R_{thJC} R_{thCH}	with heatsink compound	0.1	0.6 K/W K/W
t_{rr}	$I_F = 1 \text{ A}$; $-di_F/dt = 200 \text{ A}/\mu\text{s}$; $V_R = 30 \text{ V}$; $T_{VJ} = 25^\circ\text{C}$	20	ns
I_{RM}	$V_R = 100 \text{ V}$; $I_F = 50 \text{ A}$; $-di_F/dt = 100 \text{ A}/\mu\text{s}$ $T_{VJ} = 100^\circ\text{C}$	4.0	A

Pulse test: ① Pulse Width = 5 ms, Duty Cycle < 2.0 %
② 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, test conditions and dimensions.

Features

- International standard package miniBLOC
- Isolation voltage 2500 V~
- UL registered E 72873
- 2 independent FRED in 1 package
- Planar passivated chips
- Very short recovery time
- Extremely low switching losses
- Low I_{RM} -values
- Soft recovery behaviour

Applications

- Antiparallel diode for high frequency switching devices
- Antisaturation diode
- Snubber diode
- Free wheeling diode in converters and motor control circuits
- Rectifiers in switch mode power supplies (SMPS)
- Inductive heating
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders

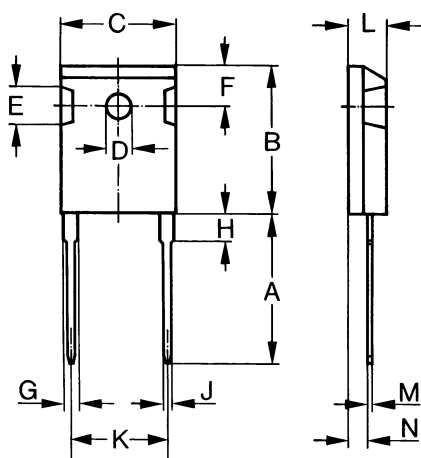
Advantages

- 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 page D3 - 9

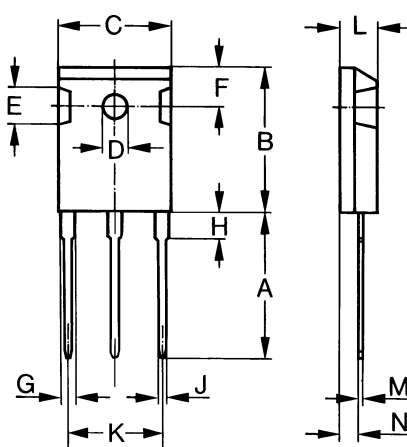
Dimensions

TO-247 AD and ISOPLUS 247™



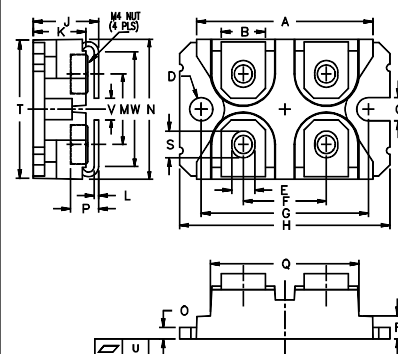
Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	19.81	20.32	0.780	0.800
B	20.80	21.46	0.819	0.845
C	15.75	16.26	0.610	0.640
D*	3.55	3.65	0.140	0.144
E	4.32	5.49	0.170	0.216
F	5.4	6.2	0.212	0.244
G	1.65	2.13	0.065	0.084
H	-	4.5	-	0.177
J	1.0	1.4	0.040	0.055
K	10.8	11.0	0.426	0.433
L	4.7	5.3	0.185	0.209
M	0.4	0.8	0.016	0.031
N	1.5	2.49	0.087	0.102

TO-247 AD and ISOPLUS 247™



* ISOPLUS 247™ without hole

miniBLOC, SOT-227 B



M4 screws (4x) supplied

Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	31.50	31.88	1.240	1.255
B	7.80	8.20	0.307	0.323
C	4.09	4.29	0.161	0.169
D	4.09	4.29	0.161	0.169
E	4.09	4.29	0.161	0.169
F	14.91	15.11	0.587	0.595
G	30.12	30.30	1.186	1.193
H	37.80	38.20	1.489	1.505
J	11.68	12.22	0.460	0.481
K	8.92	9.60	0.351	0.378
L	0.76	0.84	0.030	0.033
M	12.60	12.85	0.496	0.506
N	25.15	25.42	0.990	1.001
O	1.98	2.13	0.078	0.084
P	4.95	5.97	0.195	0.235
Q	26.54	26.90	1.045	1.059
R	3.94	4.42	0.155	0.174
S	4.72	4.85	0.186	0.191
T	24.59	25.07	0.968	0.987
U	-0.05	0.1	-0.002	0.004
V	3.30	4.57	0.130	0.180
W	0.780	0.830	0.031	0.033

