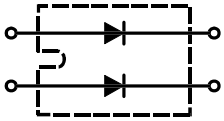
HiPerDynFRED™ Epitaxial Diode with soft recovery

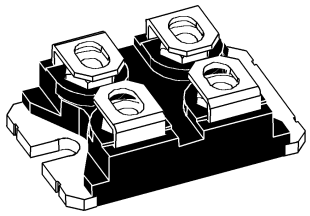
I_{FAV} = 2x 25 A
V_{RRM} = 1200 V
t_{rr} = 20 ns

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}		35	A
I_{FAVM}	T_C = 70°C; rectangular, d = 0.5	25	A
I_{FRM}	t_P < 10 µs; rep. rating, pulse width limited by T_{VJM}	tbd	A
I_{FSM}	T_{VJ} = 45°C; t_p = 10 ms (50 Hz), sine	250	A
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	Test Conditions	Characteristic Values typ.	max.	
I_R ①	$V_R = V_{RRM}$; T_{VJ} = 25°C		0.25	mA
	T_{VJ} = 150°C		2.0	mA
V_F ②	I_F = 25 A; T_{VJ} = 125°C		3.30	V
	T_{VJ} = 25°C		4.80	V
R_{thJC}			0.9	K/W
R_{thCH}	with heatsink compound	0.1		K/W
t_{rr}	I_F = 1 A; -di/dt = 200 A/µs; V_R = 30 V; T_{VJ} = 25°C	20		ns
I_{RM}	V_R = 100 V; I_F = 50 A; $-di_F/dt$ = 100 A/µs T_{VJ} = 100°C	4.0	tbd	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 Outlines.pdf

002