

tentative

Sonic Fast Recovery Diode

TENTATIVE

High Performance Fast Recovery Diode

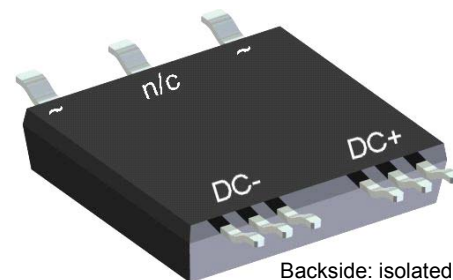
Low Loss and Soft Recovery

3~ Rectifier Bridge

Part number

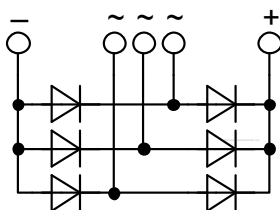
DHG60U1200LB

V_{RRM}	=	1200 V
I_{DAV}	=	62 A
t_{rr}	=	200ns



Backside: isolated

 E72873



Features / Advantages:

- Planar passivated chips
- Very low leakage current
- Very short recovery time
- Improved thermal behaviour
- Very low I_{rm} -values
- Very soft recovery behaviour
- 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

Applications:

- Antiparallel diode for high frequency switching devices
- Antisaturation diode
- Snubber diode
- Free wheeling diode
- Rectifiers in switch mode power supplies (SMPS)
- Uninterruptible power supplies (UPS)

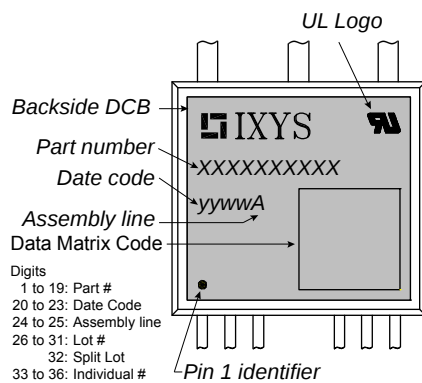
Package:

- Housing: ISOPLUS-SMPD
- DCB isolated backside
- Isolation Voltage 3000 V
- Epoxy meets UL 94V-0
- RoHS compliant

Fast Diode				Ratings			
Symbol	Definition	Conditions		min.	typ.	max.	Unit
V _{RSM}	max. non-repetitive reverse blocking voltage	T _{VJ} = 25°C					V
V _{RRM}	max. repetitive reverse blocking voltage	T _{VJ} = 25°C				1200	V
I _R	reverse current, drain current	V _{R/D} = 1200 V	T _{VJ} = 25°C			50	μA
		V _{R/D} = 1200 V	T _{VJ} = 125°C			0.5	mA
V _F	forward voltage drop	I _T = 30 A	T _{VJ} = 25°C			2.30	V
		I _T = 60 A				3.00	V
		I _T = 30 A	T _{VJ} = 125°C			2.30	V
		I _T = 60 A				3.20	V
I _{DAV}	bridge output current	T _C = 80°C rectangular d = 0.5	T _{VJ} = 150°C			62	A
V _{FO}	threshold voltage	} for power loss calculation only		T _{VJ} = 150°C		1.25	V
r _F	slope resistance					30	mΩ
R _{thJC}	thermal resistance junction to case					1.10	K/W
R _{thCH}	thermal resistance case to heatsink				0.4		K/W
P _{tot}	total power dissipation	T _C = 25°C				110	W
I _{FSM}	max. forward surge current	t = 10 ms; (50 Hz), sine V _R = 0 V	T _{VJ} = 45°C				
C _J	junction capacitance	V _R = 400 V f = 1 MHz	T _{VJ} = 25°C		13		pF
I _{RM}	max. reverse recovery current	} I _F = 30 A; V _R = 600 V -di _F /dt = 600 A/μs	T _{VJ} = 25°C		23		A
t _{rr}	reverse recovery time		T _{VJ} = 125°C		30		A
			T _{VJ} = 25°C		200		ns
			T _{VJ} = 125°C		350		ns

tentative

Package ISOPLUS-SMPD			Ratings			
Symbol	Definition	Conditions	min.	typ.	max.	Unit
I_{RMS}	RMS current	per terminal			100	A
T_{stg}	storage temperature		-55		150	°C
T_{VJ}	virtual junction temperature		-55		150	°C
Weight				8.5		g
F_C	mounting force with clip		40		130	N
V_{ISOL}	isolation voltage	t = 1 second	3000			V
		t = 1 minute	2500			V
$d_{Spp/App}$	creepage distance on surface striking distance through air	terminal to terminal	1.6			mm
$d_{Spb/Apb}$		terminal to backside	4.0			mm

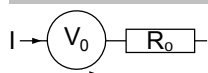


Part number

D = Diode
 H = Sonic Fast Recovery Diode
 G = extreme fast
 60 = Current Rating [A]
 U = 3~ Rectifier Bridge
 1200 = Reverse Voltage [V]
 LB = SMPD

Ordering	Part Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	DHG60U1200LB	DHG60U1200LB			

Equivalent Circuits for Simulation

 $T_{VJ} = 150^{\circ}\text{C}$ 

Fast Diode

 $V_{0\max}$ threshold voltage

1.25

V

 $R_{0\max}$ slope resistance

mΩ

Outlines ISOPLUS-SMPD

