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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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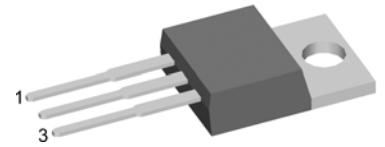
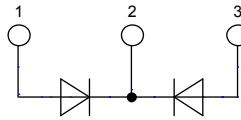
Sonic Fast Recovery Diode

High Performance Fast Recovery Diode
 Low Loss and Soft Recovery
 Common Cathode

$V_{RRM} = 600\text{ V}$
 $I_{FAV} = 2 \times 20\text{ A}$
 $t_{rr} = 40\text{ ns}$

Part number

DHG 40 C 600 PB



Backside: cathode

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:

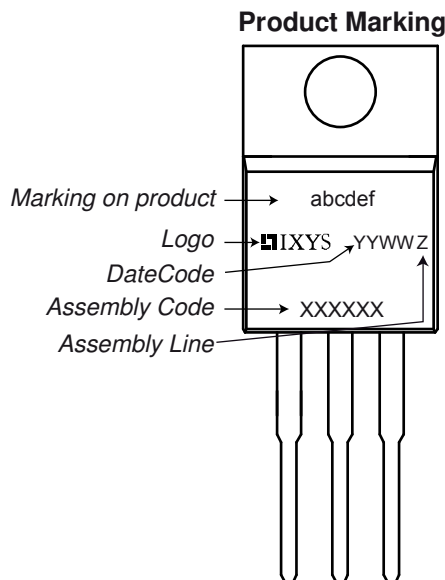
- Housing: TO-220
- Industry standard outline
- Epoxy meets UL 94V-0
- RoHS compliant

Ratings

Symbol	Definition	Conditions	Ratings			Unit
			min.	typ.	max.	
V_{RRM}	max. repetitive reverse voltage				600	V
I_R	reverse current	$V_R = 600\text{ V}$			25	μA
		$V_R = 600\text{ V}$			1.5	mA
V_F	forward voltage	$I_F = 20\text{ A}$			2.25	V
		$I_F = 40\text{ A}$			3.17	V
		$I_F = 20\text{ A}$			2.20	V
		$I_F = 40\text{ A}$			3.23	V
I_{FAV}	average forward current	rectangular $d = 0.5$			20	A
V_{F0}	threshold voltage	} for power loss calculation only			1.12	V
r_F	slope resistance				49	m Ω
R_{thJC}	thermal resistance junction to case				0.90	K/W
T_{VJ}	virtual junction temperature		-55		150	$^{\circ}\text{C}$
P_{tot}	total power dissipation				140	W
I_{FSM}	max. forward surge current	$t = 10\text{ ms}$ (50 Hz), sine			150	A
I_{RM}	max. reverse recovery current				8	A
		$I_F = 20\text{ A}; V_R = 300\text{ V}$			12	A
t_{rr}	reverse recovery time	$-di_F/dt = 450\text{ A}/\mu\text{s}$			40	ns
					60	ns
C_J	junction capacitance	$V_R = 400\text{ V}; f = 1\text{ MHz}$			13	pF

Symbol	Definition	Conditions	Ratings			Unit
			min.	typ.	max.	
I_{RMS}	RMS current	per terminal ¹⁾			35	A
R_{thCH}	thermal resistance case to heatsink			0.50		K/W
T_{stg}	storage temperature		-55		150	°C
Weight				2		g
M_D	mounting torque		0.4		0.6	Nm
F_C	mounting force with clip		20		60	N

¹⁾ I_{RMS} is typically limited by the pin-to-chip resistance (1); or by the current capability of the chip (2).
 In case of (1) and a common cathode/anode configuration with a non-isolated backside, the current capability can be increased by connecting the backside.

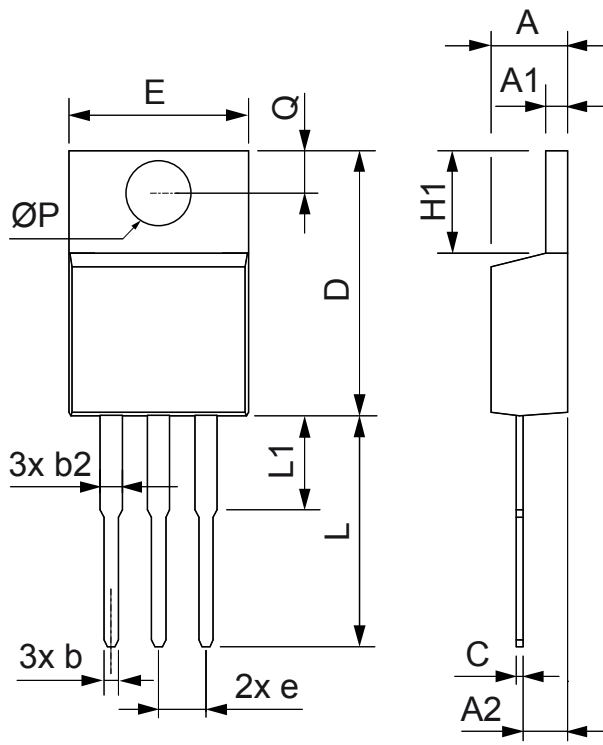

Part number

D = Diode
 H = Sonic Fast Recovery Diode
 G = extreme fast
 40 = Current Rating [A]
 C = Common Cathode
 600 = Reverse Voltage [V]
 PB = TO-220AB (3)

Ordering	Ordering Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	DHG 40 C 600 PB	DHG40C600PB	Tube	50	504948

Similar Part	Package	Voltage Class
DHG40C600HB	TO-247AD (3)	600

Outlines TO-220



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.32	4.82	0.170	0.190
A1	1.14	1.39	0.045	0.055
A2	2.29	2.79	0.090	0.110
b	0.64	1.01	0.025	0.040
b2	1.15	1.65	0.045	0.065
C	0.35	0.56	0.014	0.022
D	14.73	16.00	0.580	0.630
E	9.91	10.66	0.390	0.420
e	2.54	BSC	0.100	BSC
H1	5.85	6.85	0.230	0.270
L	12.70	13.97	0.500	0.550
L1	2.79	5.84	0.110	0.230
$\varnothing P$	3.54	4.08	0.139	0.161
Q	2.54	3.18	0.100	0.125

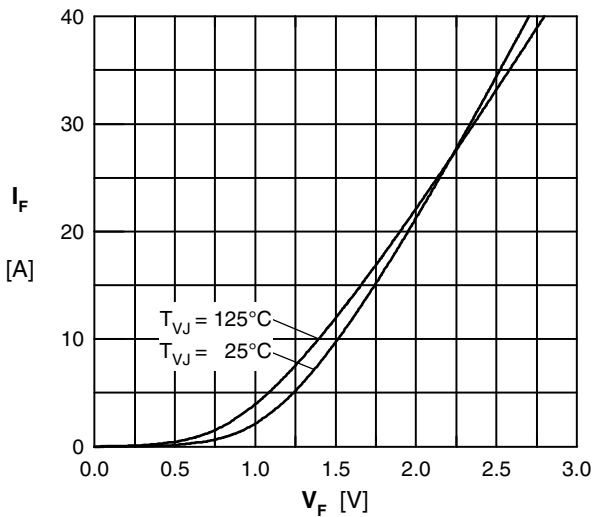


Fig. 1 Typ. Forward current versus V_F

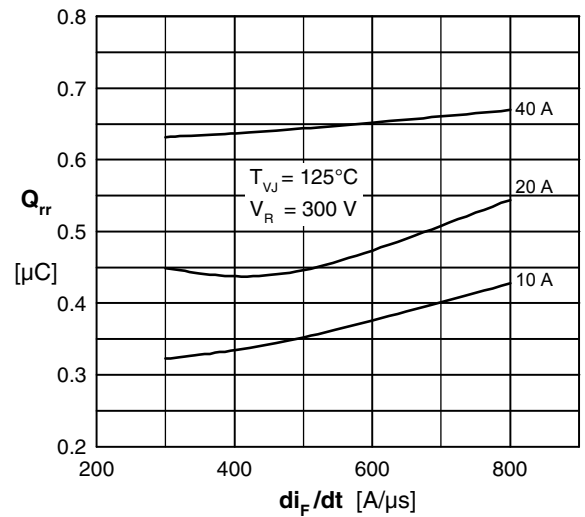


Fig. 2 Typ. reverse recov.charge Q_{rr} vs. di/dt

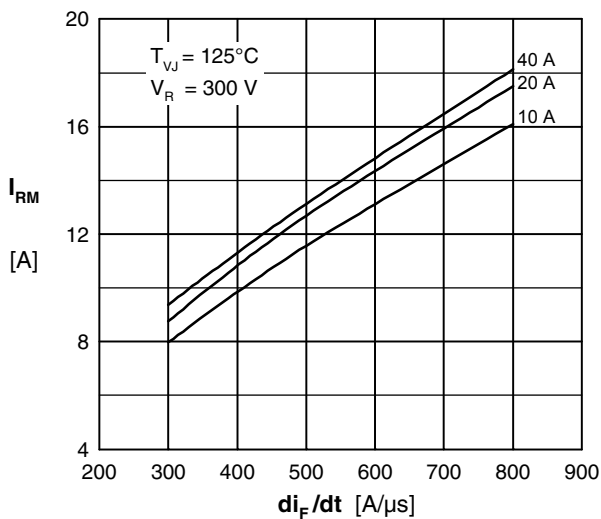


Fig. 3 Typ. peak reverse current I_{RM} vs. di/dt

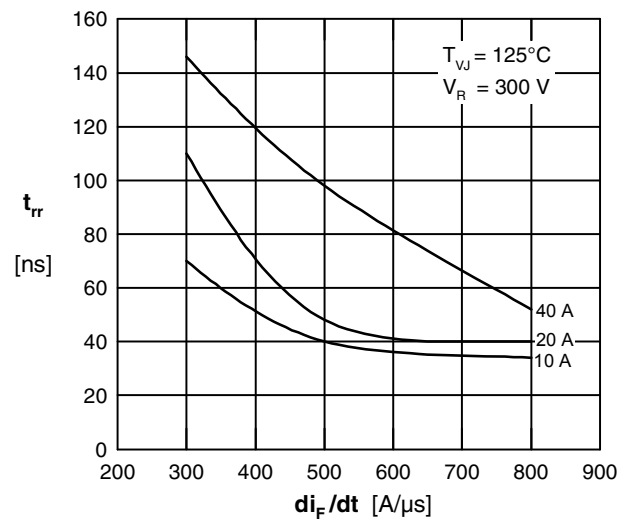


Fig. 4 Typ. recovery time t_{rr} versus di/dt

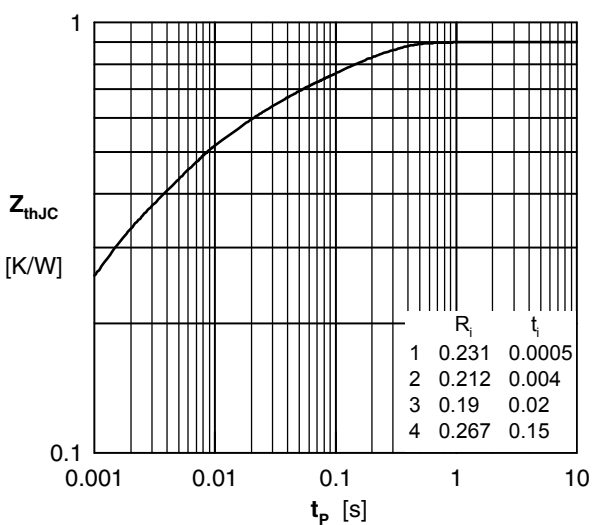


Fig. 5 Typ. transient thermal impedance