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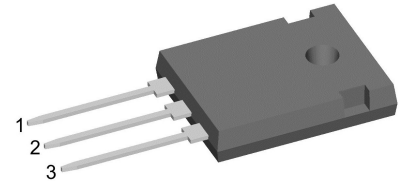
SiC Schottky Diode

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


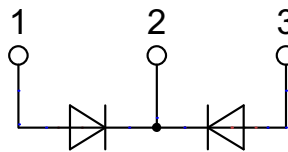
$$I_{FAV} = 2 \times 18 \text{ A}$$

Ultra fast switching
Zero reverse recovery
Common Cathode

Part number
DCG35C1200HR



Backside: isolated

 E72873


Features / Advantages:

- Ultra fast switching
- Zero reverse recovery
- Zero forward recovery
- Temperature independent switching behavior
- Positive temperature coefficient of forward voltage
- $T_{VJM} = 175^{\circ}\text{C}$

Applications:

- Solar inverter
- Uninterruptible power supply (UPS)
- Welding equipment
- Switched-mode power supplies
- Medical equipment
- High speed rectifier

Package: ISO247

- Isolation Voltage: 3600 V~
- Industry standard outline
- RoHS compliant
- Epoxy meets UL 94V-0
- Soldering pins for PCB mounting
- Backside: DCB ceramic
- Reduced weight
- Advanced power cycling

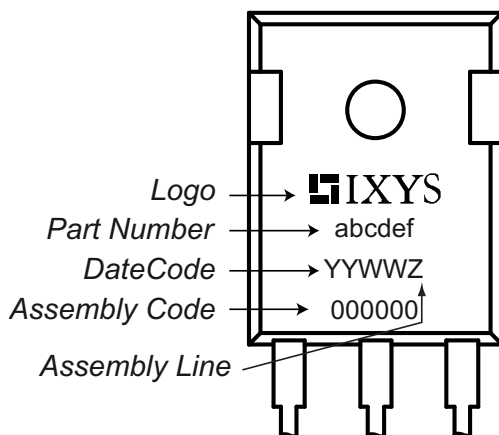
Terms & Conditions of Usage

The data contained in this product data sheet is exclusively intended for technically trained staff. The user will have to evaluate the suitability of the product for the intended application and the completeness of the product data with respect to his application. The specifications of our components may not be considered as an assurance of component characteristics. The information in the valid application- and assembly notes must be considered. Should you require product information in excess of the data given in this product data sheet or which concerns the specific application of your product, please contact the sales office, which is responsible for you. Due to technical requirements our product may contain dangerous substances. For information on the types in question please contact the sales office, which is responsible for you. Should you intend to use the product in aviation, in health or live endangering or life support applications, please notify. For any such application we urgently recommend

- to perform joint risk and quality assessments;
- the conclusion of quality agreements;
- to establish joint measures of an ongoing product survey, and that we may make delivery dependent on the realization of any such measures.

SiC Diode (per diode)				Ratings				
Symbol	Definitions	Conditions	min.	typ.	max.			
V_{RSM}	max. non-repetitive reverse blocking voltage				1200	V		
V_{RRM}	max. repetitive reverse blocking voltage				1200	V		
I_R	reverse current	$V_R = V_{RRM}$	$T_{VJ} = 25^\circ\text{C}$		35	200	μA	
			$T_{VJ} = 175^\circ\text{C}$		65	400	μA	
V_F	forward voltage	$I_F = 20\text{ A}$ $I_F = 40\text{ A}$	$T_{VJ} = 25^\circ\text{C}$		1.5	1.8	V	
			$T_{VJ} = 175^\circ\text{C}$		2.2	3.0	V	
		$T_C = 80^\circ\text{C}$ $T_C = 100^\circ\text{C}$	rectangular, $d = 0.5$	$T_{VJ} = 175^\circ\text{C}$			18	A
				$T_{VJ} = 175^\circ\text{C}$			16	A
I_{F25}	forward current	based on typ. V_{F0} and r_F	$T_C = 25^\circ\text{C}$		31.7	A		
I_{F80}			$T_C = 80^\circ\text{C}$		24.3	A		
I_{F100}			$T_C = 100^\circ\text{C}$		21.2	A		
I_{FSM}	max forward surge current	$t = 10\text{ ms, half sine (50 Hz)}$ $t_p = 10\ \mu\text{s, pulse}$	$T_{VJ} = 25^\circ\text{C}$ $V_R = 0\text{V}$			1000	A	
V_{F0}	threshold voltage	} for power loss calculation	$T_{VJ} = 125^\circ\text{C}$		0.78	V		
r_F	slope resistance		$T_{VJ} = 175^\circ\text{C}$		0.73	V		
			$T_{VJ} = 125^\circ\text{C}$		57.0	$\text{m}\Omega$		
			$T_{VJ} = 175^\circ\text{C}$		70.5	$\text{m}\Omega$		
Q_C	total capacitive charge	$V_R = 800\text{ V, } I_F = 20\text{ A}$ $di/dt = 200\text{ A}/\mu\text{s}$	$T_{VJ} = 25^\circ\text{C}$		99	nC		
C	total capacitance	$V_R = 0\text{ V}$ $V_R = 400\text{ V}$ $V_R = 800\text{ V}$	$T_{VJ} = 25^\circ\text{C, } f = 1\text{ MHz}$		1500	pF		
					93	pF		
					67	pF		
R_{thJC}	thermal resistance junction to case	with heatsink compound; IXYS test setup			1.6	K/W		
R_{thJH}	thermal resistance junction to heatsink			2.1	K/W			

Package ISO247				Ratings		
Symbol	Definitions	Conditions	min.	typ.	max.	
I_{RMS}	RMS current	per terminal			70	A
T_{stg}	storage temperature		-40		150	°C
T_{op}	operation temperature		-40		150	°C
T_{VJ}	virtual junction temperature		-40		175	°C
Weight				6		g
M_D	mounting torque		0.8		1.2	Nm
F_C	mounting force with clip		40		120	N
$d_{Spp/App}$	creepage distance on surface /	terminal to terminal	2.7			mm
$d_{Spb/Appb}$	striking distance through air	terminal to backside	4.1			mm
V_{ISOL}	isolation voltage	$t = 1$ second $t = 1$ minute		3600 3000		V V
		50/60 Hz; RMS; $I_{ISOL} < 1$ mA				

Product Marking

Part description

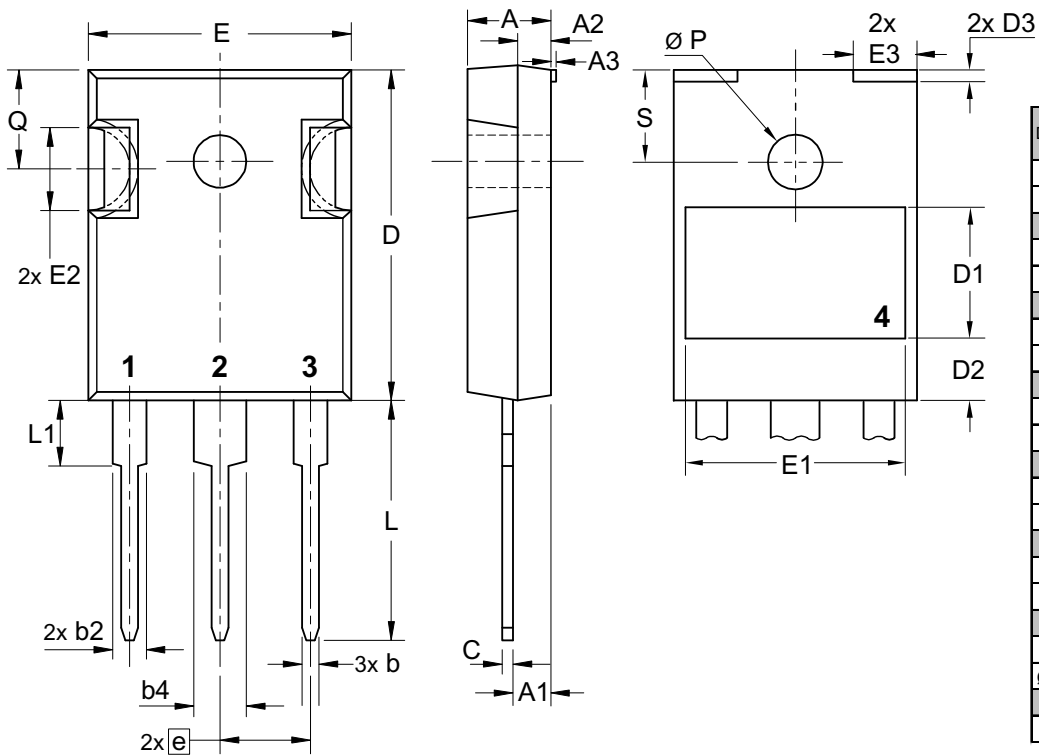
D = Diode
 C = SiC
 G = Extreme fast
 35 = Current Rating [A]
 C = Common Cathode
 1200 = Reverse Voltage [V]
 HR = ISO247 (3)

Ordering	Part Name	Marking on Product	Delivering Mode	Base Qty	Ordering Code
Standard	DCG35C1200HR	DCG35C1200HR	Tube	30	521654

Equivalent Circuits for Simulation *on die level, typical

		$T_{VJ} = 125^{\circ}\text{C}$	$T_{VJ} = 175^{\circ}\text{C}$	
$V_{0\max}$	threshold voltage	0.78	0.73	V
$R_{0\max}$	slope resistance *	57.0	70.5	mΩ

Outlines ISO247



Dim.	Millimeter		Inches	
	min	max	min	max
A	4.70	5.30	0.185	0.209
A1	2.21	2.59	0.087	0.102
A2	1.50	2.49	0.059	0.098
A3	typ. 0.05		typ. 0.002	
b	0.99	1.40	0.039	0.055
b2	1.65	2.39	0.065	0.094
b4	2.59	3.43	0.102	0.135
c	0.38	0.89	0.015	0.035
D	20.79	21.45	0.819	0.844
D1	typ. 8.90		typ. 0.350	
D2	typ. 2.90		typ. 0.114	
D3	typ. 1.00		typ. 0.039	
E	15.49	16.24	0.610	0.639
E1	typ. 13.45		typ. 0.530	
E2	4.31	5.48	0.170	0.216
E3	typ. 4.00		typ. 0.157	
e	5.46 BSC		0.215 BSC	
L	19.80	20.30	0.780	0.799
L1	-	4.49	-	0.177
ØP	3.55	3.65	0.140	0.144
Q	5.38	6.19	0.212	0.244
S	6.14 BSC		0.242 BSC	

