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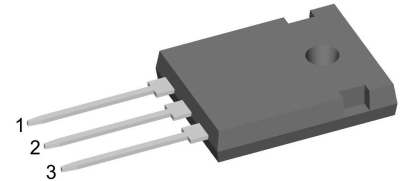
SiC Schottky Diode

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

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

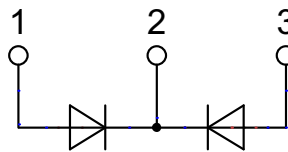
Ultra fast switching
Zero reverse recovery
Common Cathode

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

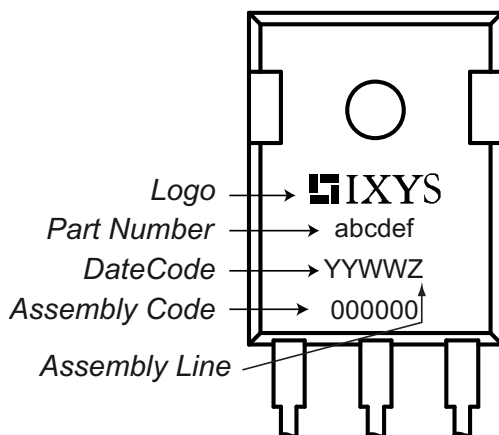
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- to perform joint risk and quality assessments;
- the conclusion of quality agreements;
- to establish joint measures of an ongoing product survey, and that we may make delivery dependent on the realization of any such measures.

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
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
			$T_{VJ} = 175^\circ\text{C}$				V
			$T_{VJ} = 25^\circ\text{C}$		2.2	3.0	V
			$T_{VJ} = 175^\circ\text{C}$				V
I_{FAV}	average forward current	$T_C = 80^\circ\text{C}$ $T_C = 100^\circ\text{C}$	} rectangular, d = 0.5 $T_{VJ} = 175^\circ\text{C}$			18	A
						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 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
							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 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

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