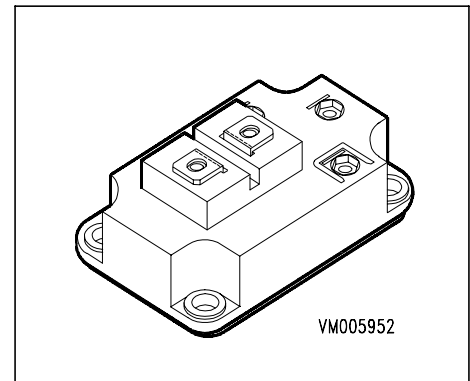


Diode Power Module

- Inside fast free-wheeling diode
- Package with insulated metal base plate
- Diode especially for brake choppers
- matched with BSM 300 GA 120 DN 2



Type	V_{R25}	I_{FDC}	Package	Ordering Code
BYM 300 A 120 DN2	1200V	450A	SINGLE DIODE 1	C67067-A2900-A70

Maximum Ratings

Parameter	Symbol	Values	Unit
Diode reverse voltage $T_j = 25\text{ °C}$	V_{R25}	1200	V
DC current $T_C = 25\text{ °C}$ $T_C = 80\text{ °C}$	I_{FDC}	450 300	A
Pulsed diode current, $t_p = 1\text{ ms}$ $T_C = 25\text{ °C}$ $T_C = 80\text{ °C}$	I_{Fpuls}	900 600	
$i^2 t$ -value, Diode, $t_p = 10\text{ ms}$, $T_j = 150\text{ °C}$	$j i^2 t$	42000	A ² s
Power dissipation per Diode	P_D	1000	W
Chip temperature	T_j	+ 150	°C
Storage temperature	T_{stg}	-40 ... + 125	
Thermal resistance, chip case	R_{thJC}	≤ 0.125	K/W
Insulation test voltage, $t = 1\text{ min.}$	V_{is}	2500	Vac
Creepage distance	-	20	mm
Clearance	-	11	
DIN humidity category, DIN 40 040	-	F	sec
IEC climatic category, DIN IEC 68-1	-	40 / 125 / 56	

Electrical Characteristics, at $T_j = 25\text{ °C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

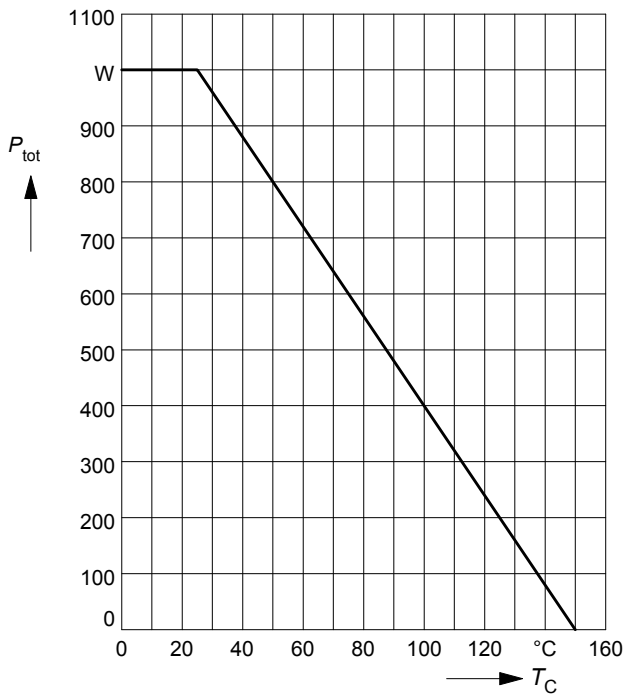
Free-Wheel Diodes

Diode forward voltage $I_F = 300\text{ A}$, $V_{GE} = 0\text{ V}$, $T_j = 25\text{ °C}$ $I_F = 300\text{ A}$, $V_{GE} = 0\text{ V}$, $T_j = 125\text{ °C}$	V_F	- -	2.3 1.8	2.8 -	V
Reverse current $V_{CA} = 1200\text{ V}$, $T_j = 25\text{ °C}$ $V_{CA} = 1200\text{ V}$, $T_j = 125\text{ °C}$	I_R	- -	0.6 6	0.8 -	mA
Reverse recovery time $I_F = 300\text{ A}$, $V_R = -600\text{ V}$, $V_{GE} = 0\text{ V}$ $di_F/dt = -2500\text{ A}/\mu\text{s}$, $T_j = 125\text{ °C}$	t_{rr}	-	0.55	-	μs
Reverse recovery charge $I_F = 300\text{ A}$, $V_R = -600\text{ V}$, $V_{GE} = 0\text{ V}$ $di_F/dt = -2500\text{ A}/\mu\text{s}$ $T_j = 25\text{ °C}$ $T_j = 125\text{ °C}$	Q_{rr}	- -	14 40	- -	μC

Power dissipation

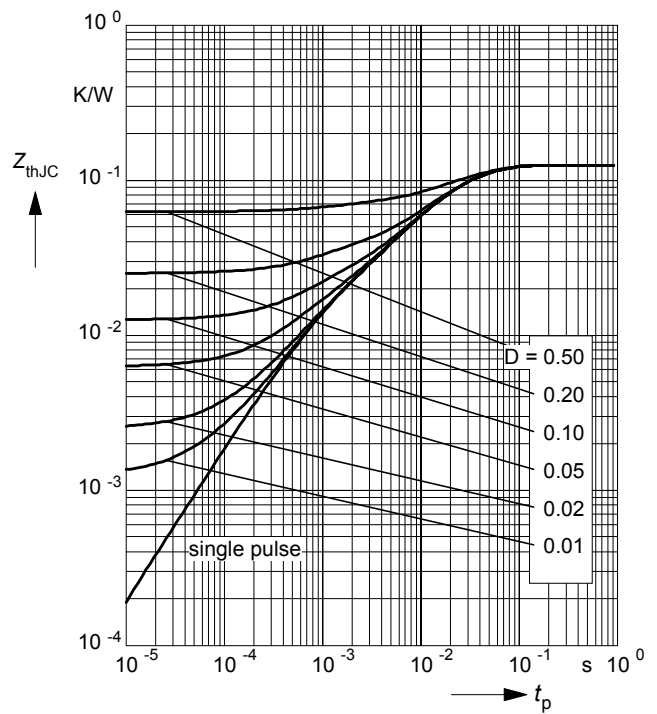
$$P_{\text{tot}} = f(T_C)$$

parameter: $T_j \leq 150^\circ\text{C}$

**Transient thermal impedance Diode**

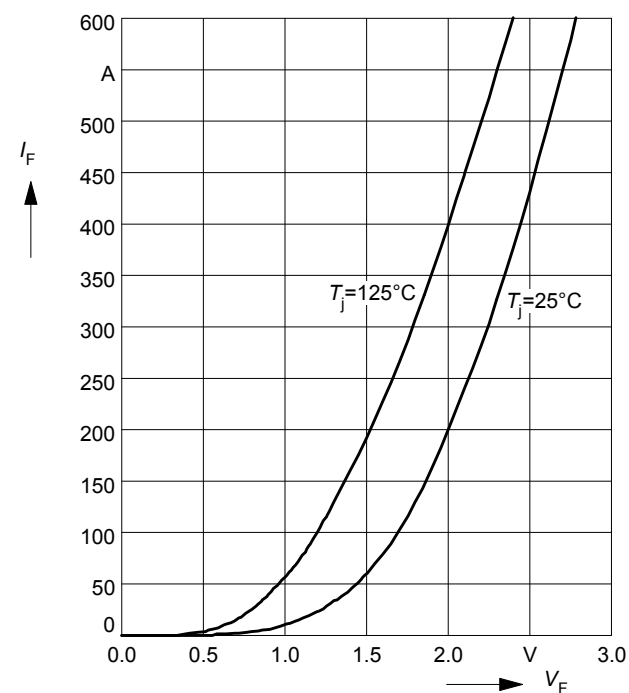
$$Z_{\text{th JC}} = f(t_p)$$

parameter: $D = t_p / T$

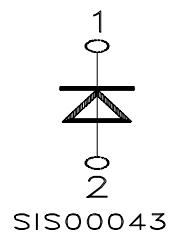
**Forward characteristics of fast recovery**

$$\text{reverse diode } I_F = f(V_F)$$

parameter: T_j



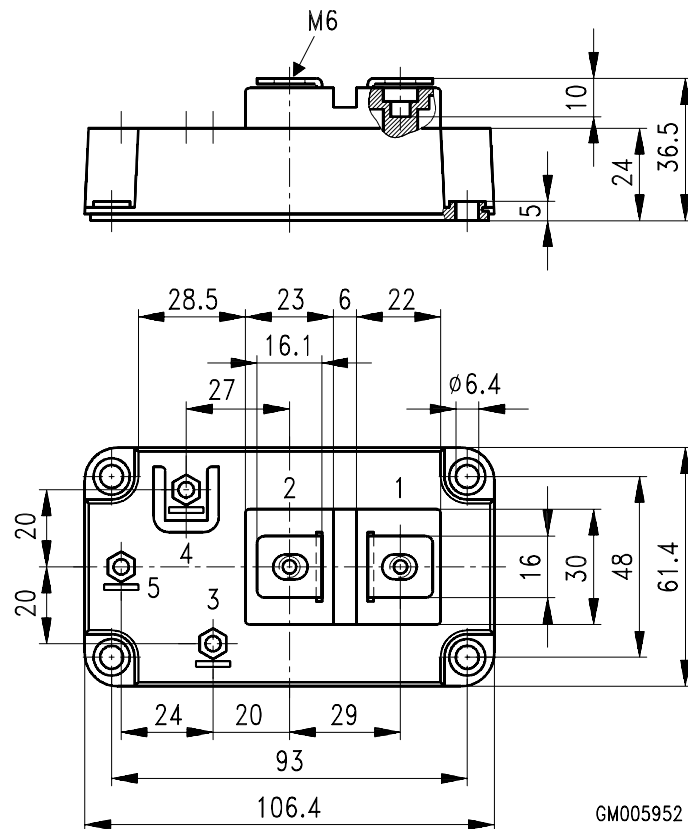
Circuit Diagram



Package Outlines

Dimensions in mm

Weight: 420 g



Terms & Conditions of Usage

Attention

The present product data is exclusively subscribed to technically experienced staff. This Data Sheet is describing the specification of the products for which a warranty is granted exclusively pursuant the terms and conditions of the supply agreement. There will be no guarantee of any kind for the product and its specifications. Changes to the Data Sheet are reserved.

You and your technical departments will have to evaluate the suitability of the product for the intended application and the completeness of the product data with respect to such application. Should you require product information in excess of the data given in the Data Sheet, please contact your local Sales Office via "www.eupec.com / sales & contact".

Warning

Due to technical requirements the products may contain dangerous substances. For information on the types in question please contact your local Sales Office via "www.eupec.com / sales & contact".