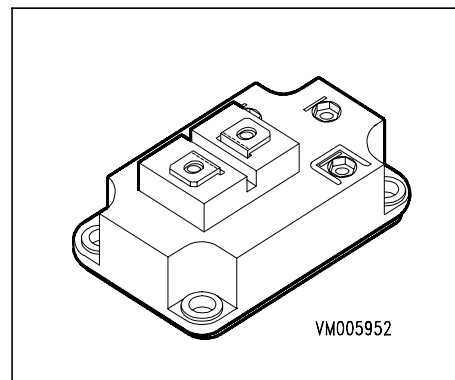


## Diode Power Module

- 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, $t_p = 10\text{ ms}$ , $T_j = 150\text{ °C}$	$i^2 t$	42000	A <sup>2</sup> 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	

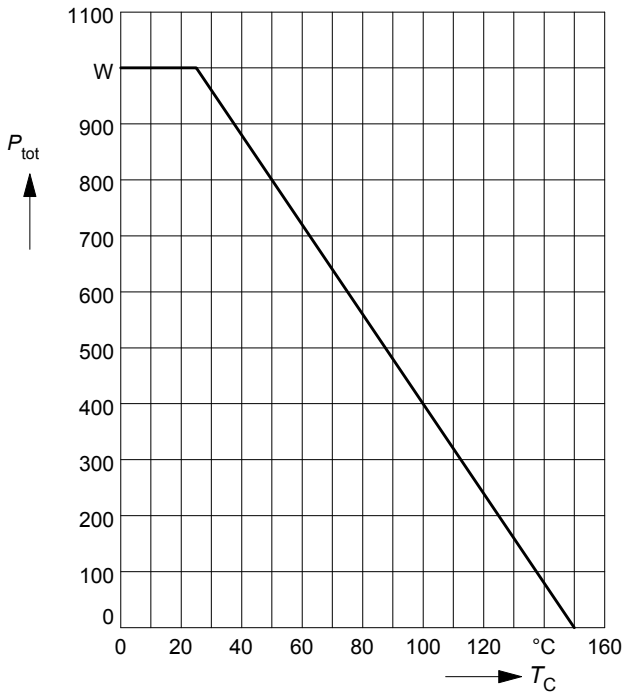
**Electrical Characteristics**, at  $T_j = 25\text{ °C}$ , unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
<b>Free-Wheel Diodes</b>					
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	-	$\mu\text{s}$
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	- -	$\mu\text{C}$

**Power dissipation**

$P_{tot} = f(T_C)$

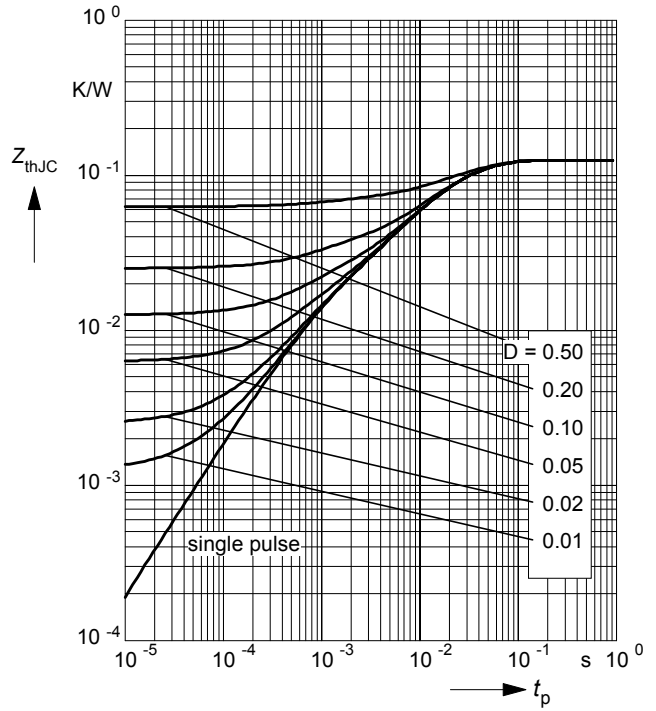
parameter:  $T_j \leq 150\text{ }^\circ\text{C}$



**Transient thermal impedance Diode**

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

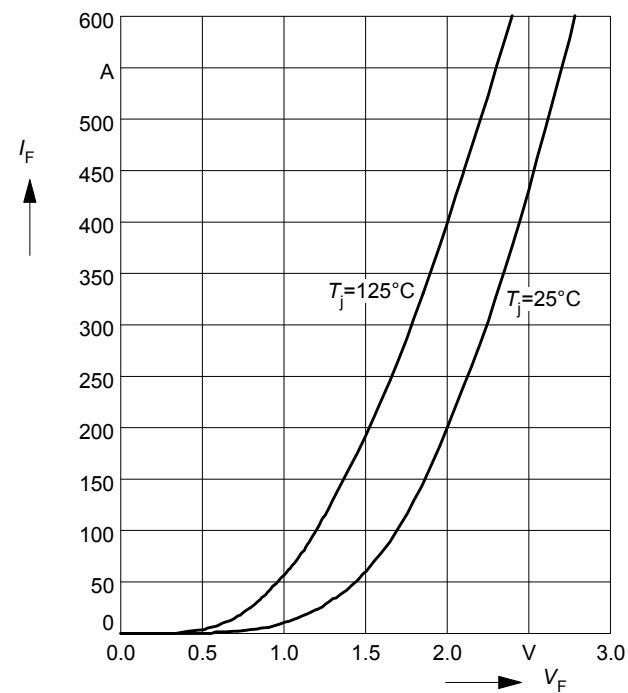
parameter:  $D = t_p / T$



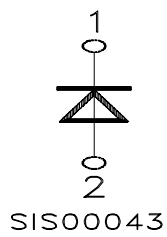
**Forward characteristics of fast recovery reverse diode**

$I_F = f(V_F)$

parameter:  $T_j$



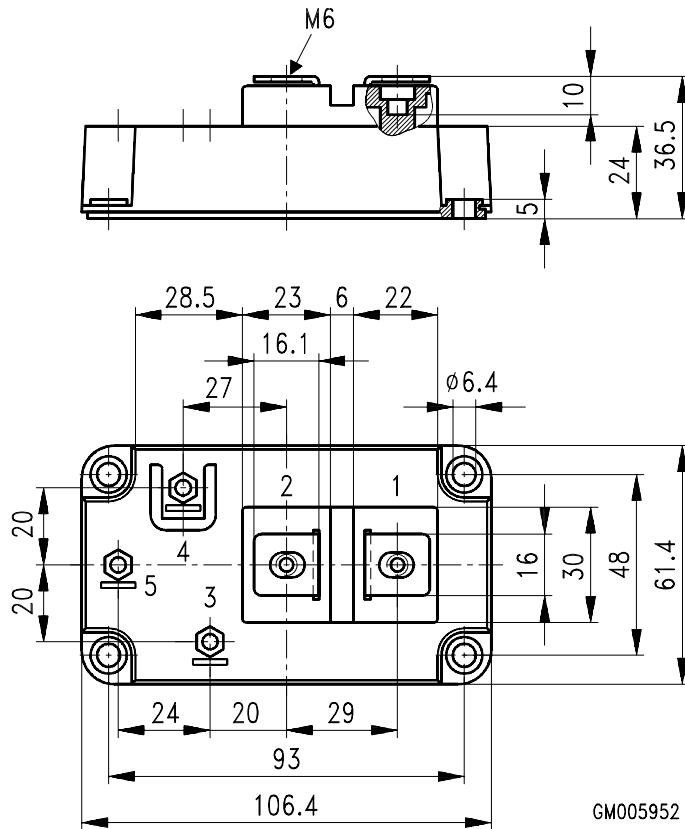
**Circuit Diagram**



**Package Outlines**

Dimensions in mm

Weight: 420 g



## **Terms & Conditions of Usage**

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