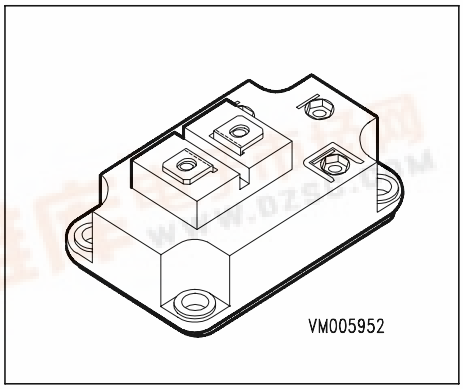
SIEMENS

BYM 300 A 120 DN2

Diode Power Module

Preliminary data

- 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 °C	V_{R25}	 1200	V
DC current T_C = 25 °C T_C = 80 °C	I_{FDC}	 450 300	A
Pulsed diode current, t_p = 1 ms T_C = 25 °C T_C = 80 °C	I_{Fpuls}	 900 600	
i^2t-value, t_P = 10 ms T_j = 0 °C	$\int i^2t$	 42000	A^2s
Power dissipation per diode T_C = 25 °C	P_D	 1000	W
Chip temperature	T_j	+ 150	°C
Storage temperature	T_{stg}	-55 ... + 150	
Thermal resistance, chip case	R_{thJC}	≤ 0.125	K/W
Insulation test voltage, t = 1min.	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	-	55 / 150 / 56	

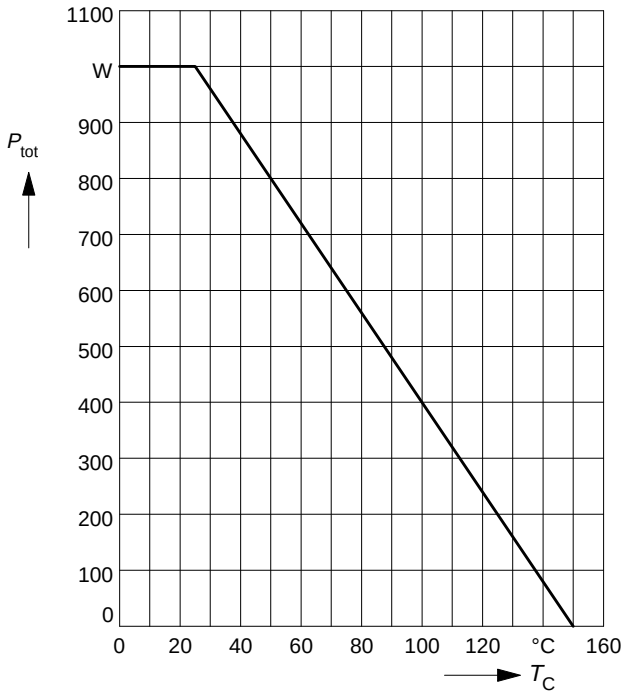
Electrical Characteristics, at T_j = 25 °C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Free-Wheel Diodes					
Diode forward voltage	V_F				V
I_F = 300 A, V_{GE} = 0 V, T_j = 25 °C		-	2.3	2.8	
I_F = 300 A, V_{GE} = 0 V, T_j = 125 °C		-	1.8	-	
Reverse current	I_R				mA
V_{CA} = 1200 V, T_j = 25 °C		-	0.6	0.8	
V_{CA} = 1200 V, T_j = 125 °C		-	6	-	
Reverse recovery time	t_{rr}				µs
I_F = 300 A, V_R = -600 V, V_{GE} = 0 V					
di_F/dt = -2500 A/µs, T_j = 125 °C		-	0.55	-	
Reverse recovery charge	Q_{rr}				µC
I_F = 300 A, V_R = -600 V, V_{GE} = 0 V					
di_F/dt = -2500 A/µs					
T_j = 25 °C		-	14	-	
T_j = 125 °C		-	40	-	

Power dissipation

$P_{tot} = f(T_C)$

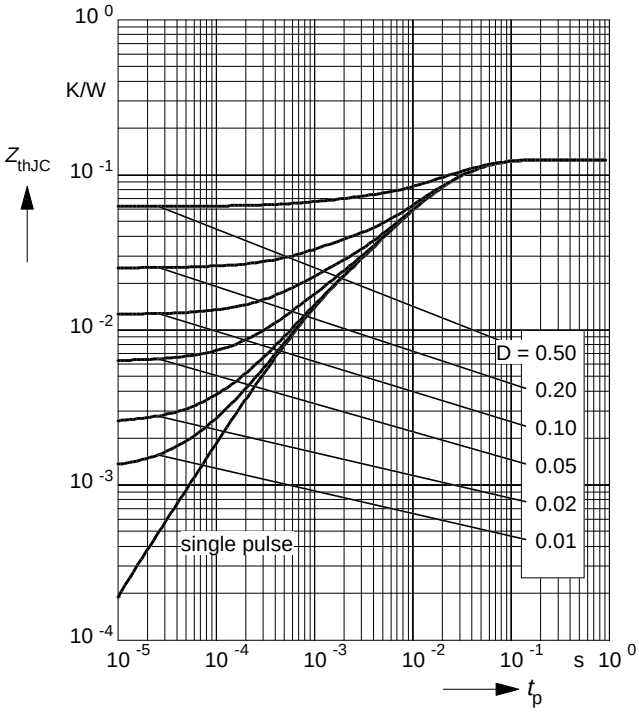
parameter: $T_j \leq 150$ °C



Transient thermal impedance Diode

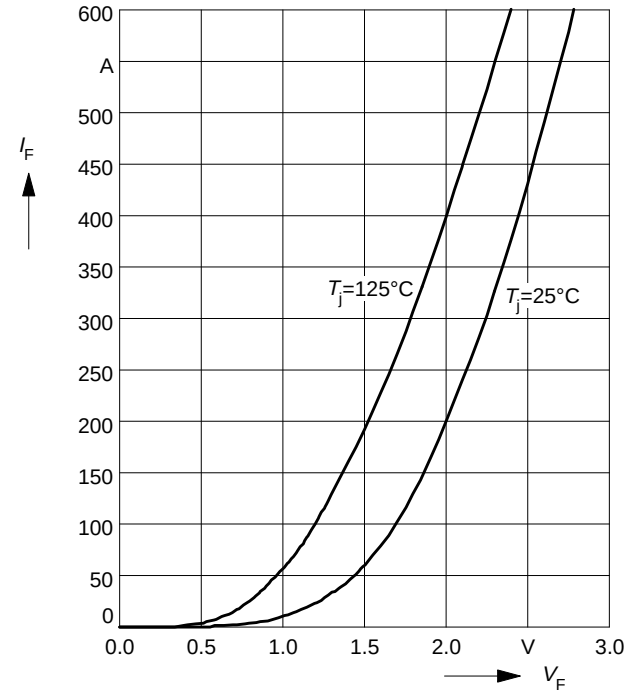
$Z_{th\ JC} = f(t_p)$

parameter: $D = t_p / T$

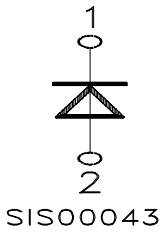


Forward characteristics of fast recovery reverse diode $I_F = f(V_F)$

parameter: T_j



Circuit Diagram



Package Outlines

Dimensions in mm

Weight: 420 g