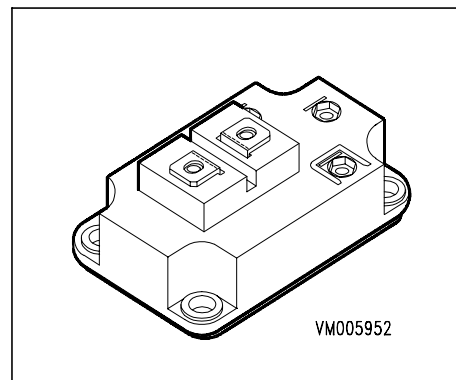


Diode Power Module

Preliminary data

- Inside fast free-wheeling diode
- Package with insulated metal base plate
- Diode especially for brake choppers
- matched with BSM 300 GA 170 DN 2



Type	V_{R25}	I_{FDC}	Package	Ordering Code
BYM 300 A 170 DN2	1700V	380A	SINGLE DIODE 1	C67070-A2901-A67

Maximum Ratings

Parameter	Symbol	Values	Unit
Diode reverse voltage $T_j = 25\text{ °C}$	V_{R25}	1700	V
DC current $T_C = 25\text{ °C}$ $T_C = 80\text{ °C}$	I_{FDC}	380 250	A
Pulsed diode current, $t_p = 1\text{ ms}$ $T_C = 25\text{ °C}$ $T_C = 80\text{ °C}$	I_{Fpuls}	760 500	
i^2t -value, $t_p = 10\text{ ms}$ $T_j = 0\text{ °C}$	$\int i^2 t$	42050	A ² s
Power dissipation per diode $T_C = 25\text{ °C}$	P_D	830	W
Chip temperature	T_j	+ 150	°C
Storage temperature	T_{stg}	-55 ... + 150	
Thermal resistance, chip case	R_{thJC}	≤ 0.15	K/W
Insulation test voltage, $t = 1\text{ min.}$	V_{is}	4000	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 $T_j = 25\text{ °C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

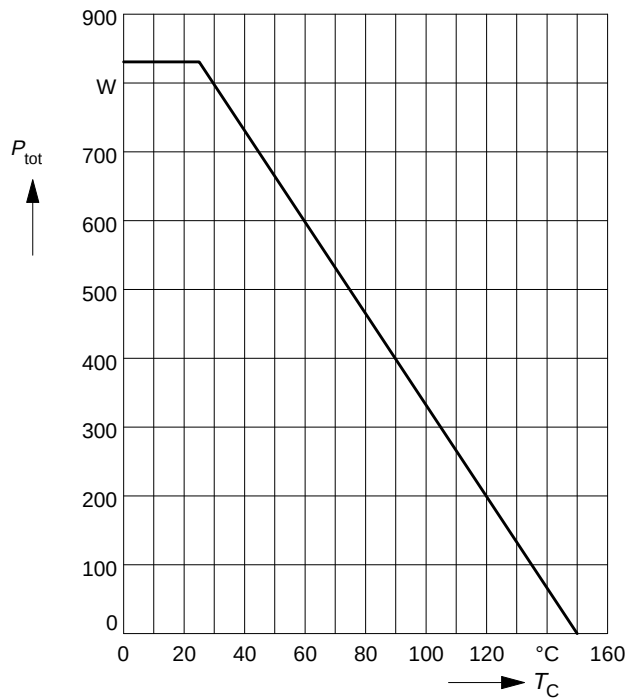
Free-Wheel Diodes

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 2.1	2.8 -	V
Reverse current $V_{CA} = 1700\text{ V}$, $T_j = 25\text{ °C}$ $V_{CA} = 1700\text{ V}$, $T_j = 125\text{ °C}$	I_R	- -	0.5 2	0.8 -	mA
Reverse recovery time $I_F = 300\text{ A}$, $V_R = -1200\text{ V}$, $V_{GE} = 0\text{ V}$ $dI_F/dt = -1500\text{ A/}\mu\text{s}$, $T_j = 125\text{ °C}$	t_{rr}	-	1	-	μs
Reverse recovery charge $I_F = 300\text{ A}$, $V_R = -1200\text{ V}$, $V_{GE} = 0\text{ V}$ $dI_F/dt = -1500\text{ A/}\mu\text{s}$ $T_j = 25\text{ °C}$ $T_j = 125\text{ °C}$	Q_{rr}	- -	22 70	- -	μC

Power dissipation

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

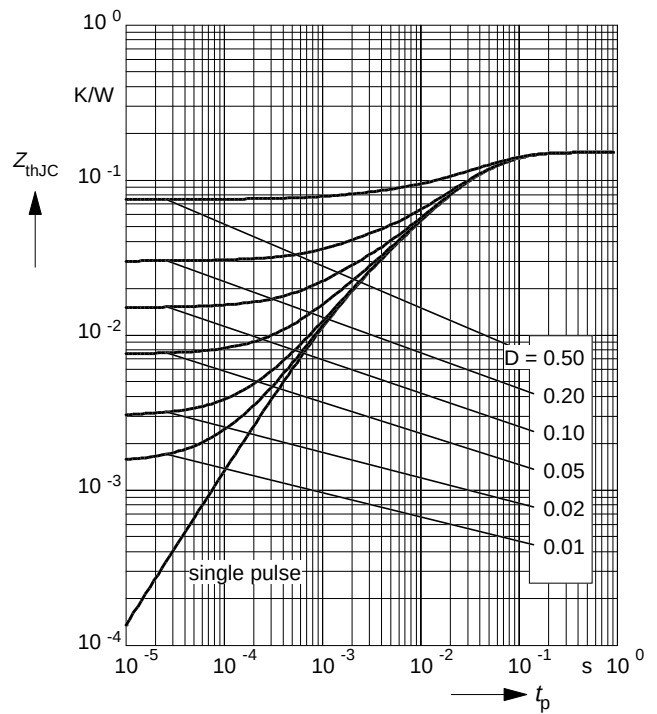
parameter: $T_j \leq 150^\circ\text{C}$



Transient thermal impedance Diode

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

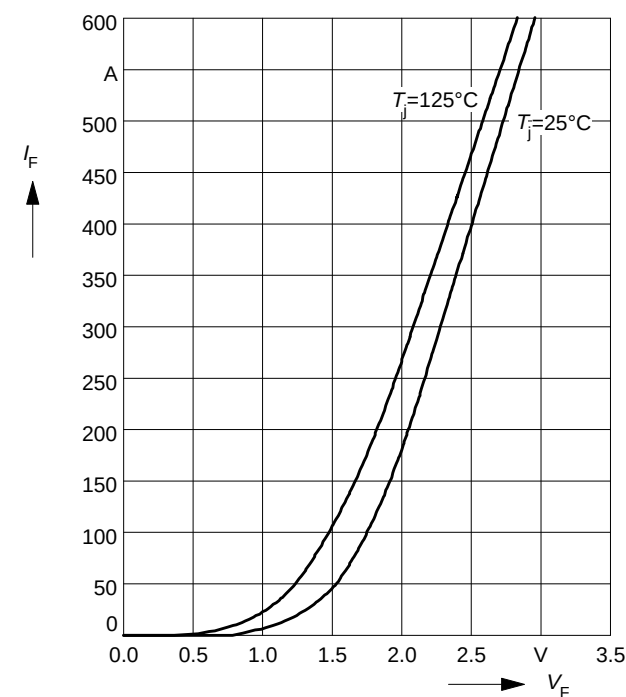
parameter: $D = t_p / T$



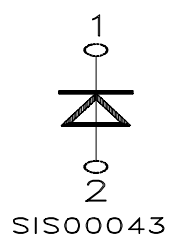
Forward characteristics of fast recovery reverse diode

$$I_F = f(V_F)$$

parameter: T_j



Circuit Diagram



Package Outlines

Dimensions in mm

Weight: 420 g

