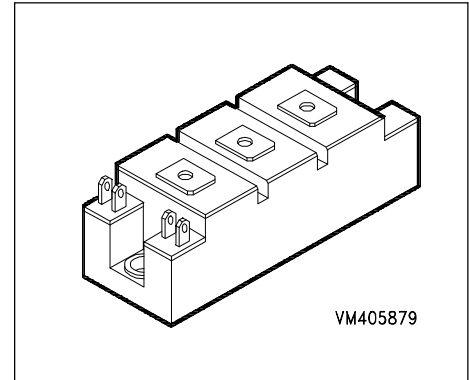


IGBT Power Module

- Half-bridge
- Including fast free-wheeling diodes
- Package with insulated metal base plate
- $R_{G\ on, \min} = 22\ \Omega$



Type	V_{CE}	I_C	Package	Ordering Code
BSM 75 GB 170 DN2	1700V	110A	HALF-BRIDGE 1	C67070-A2702-A67

Maximum Ratings

Parameter	Symbol	Values	Unit
Collector-emitter voltage	V_{CE}	1700	V
Collector-gate voltage	V_{CGR}	1700	
$R_{GE} = 20\ k\Omega$			
Gate-emitter voltage	V_{GE}	± 20	
DC collector current	I_C		A
$T_C = 25\ ^\circ C$		110	
$T_C = 80\ ^\circ C$		75	
Pulsed collector current, $t_p = 1\ ms$	I_{Cpuls}		
$T_C = 25\ ^\circ C$		220	
$T_C = 80\ ^\circ C$		150	
Power dissipation per IGBT	P_{tot}		W
$T_C = 25\ ^\circ C$		625	
Chip temperature	T_j	+ 150	$^\circ C$
Storage temperature	T_{stg}	-40 ... + 125	
Thermal resistance, chip case	R_{thJC}	≤ 0.2	K/W
Diode thermal resistance, chip case	R_{thJCD}	≤ 0.63	
Insulation test voltage, $t = 1\ min.$	V_{is}	4000	Vac
Creepage distance	-	16	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.	

Static Characteristics

Gate threshold voltage $V_{GE} = V_{CE}, I_C = 5\text{ mA}$	$V_{GE(th)}$	4.8	5.5	6.2	V
Collector-emitter saturation voltage $V_{GE} = 15\text{ V}, I_C = 75\text{ A}, T_j = 25\text{ °C}$ $V_{GE} = 15\text{ V}, I_C = 75\text{ A}, T_j = 125\text{ °C}$	$V_{CE(sat)}$	- -	3.4 4.6	3.9 5.3	
Zero gate voltage collector current $V_{CE} = 1700\text{ V}, V_{GE} = 0\text{ V}, T_j = 25\text{ °C}$ $V_{CE} = 1700\text{ V}, V_{GE} = 0\text{ V}, T_j = 125\text{ °C}$	I_{CES}	- -	0.5 2	0.75 -	mA
Gate-emitter leakage current $V_{GE} = 20\text{ V}, V_{CE} = 0\text{ V}$	I_{GES}	-	-	400	nA

AC Characteristics

Transconductance $V_{CE} = 20\text{ V}, I_C = 75\text{ A}$	g_{fs}	27	-	-	S
Input capacitance $V_{CE} = 25\text{ V}, V_{GE} = 0\text{ V}, f = 1\text{ MHz}$	C_{iss}	-	11	-	nF
Output capacitance $V_{CE} = 25\text{ V}, V_{GE} = 0\text{ V}, f = 1\text{ MHz}$	C_{oss}	-	1	-	
Reverse transfer capacitance $V_{CE} = 25\text{ V}, V_{GE} = 0\text{ V}, f = 1\text{ MHz}$	C_{rss}	-	0.28	-	