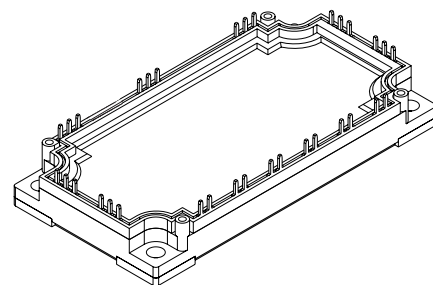
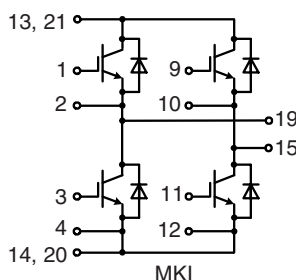


IGBT Modules

H Bridge

Short Circuit SOA Capability
Square RBSOA

$$\begin{aligned} I_{C25} &= 125 \text{ A} \\ V_{CES} &= 1200 \text{ V} \\ V_{CE(sat) \text{ typ.}} &= 3.3 \text{ V} \end{aligned}$$



IGBTs

Symbol	Conditions	Maximum Ratings	
V_{CES}	$T_{VJ} = 25^{\circ}\text{C to } 150^{\circ}\text{C}$	1200	V
V_{GES}		± 20	V
I_{C25}	$T_C = 25^{\circ}\text{C}$	125	A
I_{C80}	$T_C = 80^{\circ}\text{C}$	85	A
I_{CM}	$V_{GE} = \pm 15 \text{ V}; R_G = 5.6 \Omega; T_{VJ} = 125^{\circ}\text{C}$	200	A
V_{CEK}	RBSOA; clamped inductive load; $L = 100 \mu\text{H}$	V_{CES}	
t_{SC}	$V_{CE} = 900 \text{ V}; V_{GE} = \pm 15 \text{ V}; R_G = 5.6 \Omega; T_{VJ} = 125^{\circ}\text{C}$ SCSOA; non-repetitive	10	μs
P_{tot}	$T_C = 25^{\circ}\text{C}$	640	W

Features

- Fast NPT IGBTs
 - low saturation voltage
 - positive temperature coefficient for easy paralleling
 - fast switching
 - short tail current for optimized performance also in resonant circuits
- HiPerFRED™ diode:
 - fast reverse recovery
 - low operating forward voltage
 - low leakage current
- Industry Standard Package
 - solderable pins for PCB mounting
 - isolated copper base plate

Symbol	Conditions	Characteristic Values ($T_{VJ} = 25^{\circ}\text{C}$, unless otherwise specified)		
		min.	typ.	max.
$V_{CE(sat)}$	$I_C = 100 \text{ A}; V_{GE} = 15 \text{ V}; T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$		3.3 4.0	3.9 V
$V_{GE(th)}$	$I_C = 4 \text{ mA}; V_{GE} = V_{CE}$	4.5		6.5 V
I_{CES}	$V_{CE} = V_{CES}; V_{GE} = 0 \text{ V}; T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$		4.0	1.3 mA mA
I_{GES}	$V_{CE} = 0 \text{ V}; V_{GE} = \pm 20 \text{ V}$			600 nA
$t_{d(on)}$ t_r $t_{d(off)}$ t_f E_{on} E_{off}	Inductive load, $T_{VJ} = 125^{\circ}\text{C}$ $V_{CE} = 600 \text{ V}; I_C = 100 \text{ A}$ $V_{GE} = \pm 15 \text{ V}; R_G = 5.6 \Omega$		130 60 365 30 12.0 5.0	ns ns ns ns mJ mJ
C_{ies}			6.5	nF
Q_{Gon}			1.1	μC
R_{thJC}				0.19 K/W

Typical Applications

- motor control
 - . DC motor amature winding
 - . DC motor excitation winding
 - . synchronous motor excitation winding
- supply of transformer primary winding
 - . power supplies
 - . welding
 - . X-ray
 - . battery charger

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