

# IGBT Module

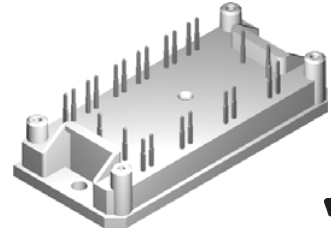
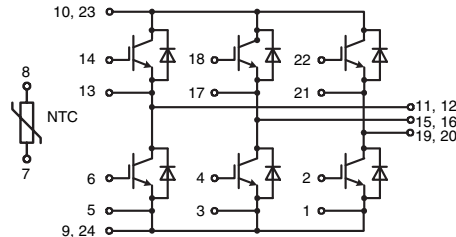
## Sixpack

Square RBSOA

$$I_{C25} = 60 \text{ A}$$

$$V_{CES} = 600 \text{ V}$$

$$V_{CE(sat) \text{ typ.}} = 2.3 \text{ V}$$



### IGBTs

Symbol	Conditions	Maximum Ratings	
$V_{CES}$	$T_{VJ} = 25^{\circ}\text{C to } 150^{\circ}\text{C}$	600	V
$V_{GES}$		$\pm 20$	V
$I_{C25}$	$T_C = 25^{\circ}\text{C}$	60	A
$I_{C80}$	$T_C = 80^{\circ}\text{C}$	41	A
$I_{CM}$	$V_{GE} = \pm 15 \text{ V}; R_G = 10 \Omega; T_{VJ} = 125^{\circ}\text{C}$	80	A
$V_{CEK}$	RBSOA; clamped inductive load; $L = 100 \mu\text{H}$	$V_{CES}$	
$P_{tot}$	$T_C = 25^{\circ}\text{C}$	180	W

### Features

- IGBTs
  - low saturation voltage
  - 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
- UL registered E72873

Symbol	Conditions	Characteristic Values ( $T_{VJ} = 25^{\circ}\text{C}$ , unless otherwise specified)		
		min.	typ.	max.
$V_{CE(sat)}$	$I_C = 30 \text{ A}; V_{GE} = 15 \text{ V}; T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$		2.3 2.0	V V
$V_{GE(th)}$	$I_C = 0.25 \text{ mA}; V_{GE} = V_{CE}$	3		5 V
$I_{CES}$	$V_{CE} = V_{CES}; V_{GE} = 0 \text{ V}; T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$		1.2	0.2 mA mA
$I_{GES}$	$V_{CE} = 0 \text{ V}; V_{GE} = \pm 20 \text{ V}$			100 nA
$t_{d(on)}$ $t_r$ $t_{d(off)}$ $t_f$ $E_{on}$ $E_{off}$	Inductive load, $T_{VJ} = 125^{\circ}\text{C}$ $V_{CE} = 400 \text{ V}; I_C = 30 \text{ A}$ $V_{GE} = \pm 15 \text{ V}; R_G = 3 \Omega$		20 20 130 80 0.6 0.5	ns ns ns ns mJ mJ
$C_{ies}$		$V_{CE} = 25 \text{ V}; V_{GE} = 0 \text{ V}; f = 1 \text{ MHz}$	2500	pF
$Q_{Gon}$		$V_{CE} = 300 \text{ V}; V_{GE} = 15 \text{ V}; I_C = 30 \text{ A}$	95	nC
$R_{thJC}$ $R_{thCH}$		(per IGBT)	0.25	0.7 K/W K/W

### Typical Applications

- AC drives

