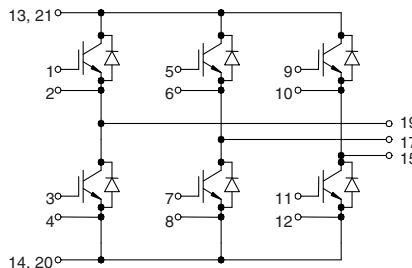


IGBT Modules

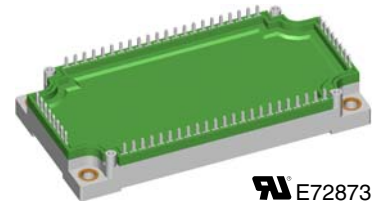
Sixpack

Short Circuit SOA Capability
Square RBSOA

Preliminary data



$I_{C25} = 130 \text{ A}$
 $V_{CES} = 600 \text{ V}$
 $V_{CE(sat) \text{ typ.}} = 2.0 \text{ V}$



IXYS E72873

See outline drawing for pin arrangement

IGBTs

Symbol	Conditions	Maximum Ratings	
V_{CES}	$T_{VJ} = 25^{\circ}\text{C to } 150^{\circ}\text{C}$	600	V
V_{GES}		± 20	V
I_{C25}	$T_C = 25^{\circ}\text{C}$	130	A
I_{C80}	$T_C = 80^{\circ}\text{C}$	88	A
RBSOA	$V_{GE} = \pm 15 \text{ V}; R_G = 2.2 \Omega; T_{VJ} = 125^{\circ}\text{C}$ Clamped inductive load; $L = 100 \mu\text{H}$	$I_{CM} = 200$ $V_{CEK} \leq V_{CES}$	A
t_{SC} (SCSOA)	$V_{CE} = V_{CES}; V_{GE} = \pm 15 \text{ V}; R_G = 2.2 \Omega; T_{VJ} = 125^{\circ}\text{C}$ non-repetitive	10	μs
P_{tot}	$T_C = 25^{\circ}\text{C}$	410	W

Features

- €NPT IGBT technology
- €low saturation voltage
- €low switching losses
- €switching frequency up to 30 kHz
- €square RBSOA, no latch up
- €high short circuit capability
- €positive temperature coefficient for easy paralleling
- €MOS input, voltage controlled
- €ultra fast free wheeling diodes
- €solderable pins for PCB mounting
- €package with copper base plate

Advantages

- €space savings
- €reduced protection circuits
- €package designed for wave soldering

Typical Applications

- €AC motor control
- €AC servo and robot drives
- €power supplies

Symbol	Conditions	Characteristic Values ($T_{VJ} = 25^{\circ}\text{C}$, unless otherwise specified)		
		min.	typ.	max.
$V_{CE(sat)}$	$I_C = 100 \text{ A}; V_{GE} = 15 \text{ V}; T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$		2.0 2.3	V V
$V_{GE(th)}$	$I_C = 1.5 \text{ mA}; V_{GE} = V_{CE}$	4.5		6.5 V
I_{CES}	$V_{CE} = V_{CES}; V_{GE} = 0 \text{ V}; T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$		0.9	1.2 mA mA
I_{GES}	$V_{CE} = 0 \text{ V}; V_{GE} = \pm 20 \text{ V}$			400 nA
$t_{d(on)}$	Inductive load, $T_{VJ} = 125^{\circ}\text{C}$ $V_{CE} = 300 \text{ V}; I_C = 100 \text{ A}$ $V_{GE} = \pm 15 \text{ V}; R_G = 2.2 \Omega$		25	ns
t_r			11	ns
$t_{d(off)}$			150	ns
t_f			30	ns
E_{on}			1.0	mJ
E_{off}			2.9	mJ
C_{ies}	$V_{CE} = 25 \text{ V}; V_{GE} = 0 \text{ V}; f = 1 \text{ MHz}$		4.3	nF
Q_{Gon}	$V_{CE} = 300 \text{ V}; V_{GE} = 15 \text{ V}; I_C = 125 \text{ A}$		340	nC
R_{thJC}	(per IGBT)			0.3 K/W

