Chipsmall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

IGBT Module
Single switch

I_{C80} = 1500 A
V_{CES} = 2500 V
$V_{CE(sat)\ typ.}$ = 2.7 V

Short Circuit SOA Capability
Square RBSOA

Features

- NPT³ IGBT
  - Low-loss
  - Smooth switching waveforms for good EMC
- Industry standard package
  - High power density
  - AlSiC base-plate for high power cycling capacity
  - AlN substrate for low thermal resistance

Typical Applications

- AC power converters for
  - industrial drives
  - windmills
  - traction
- LASER pulse generator
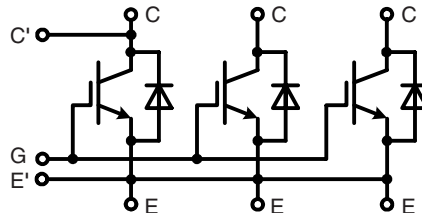
IGBT		
Symbol	**Conditions**	**Maximum Ratings**
V_{CES}	V_{GE} = 0 V	2500 V
V_{GES}		± 20 V
I_{C80}	T_C = 80°C	1500 A
I_{CM}	t_p = 1 ms; T_C = 80°C	3000 A
t_{SC}	V_{CC} = 1700 V; $V_{CEM\ CHIP}$ = ≤ 2500 V; V_{GE} ≤ 15 V; T_{VJ} ≤ 125°C	10 µs

Symbol	Conditions	Characteristic Values (T_{VJ} = 25°C, unless otherwise specified)			
		min.	typ.	max.	
$V_{CE(sat)}$ ①	I_C = 1500 A; V_{GE} = 15 V; T_{VJ} = 25°C		2.7		V
	T_{VJ} = 125°C		3.3		V
$V_{GE(th)}$	I_C = 240 mA; V_{CE} = V_{GE}	6		7.5	V
I_{CES}	V_{CE} = 2500 V; V_{GE} = 0 V; T_{VJ} = 125°C			100	mA
I_{GES}	V_{CE} = 0 V; V_{GE} = ± 20 V; T_{VJ} = 125°C			500	nA
E_{on}	Inductive load; T_{VJ} = 125°C; V_{GE} = ±15 V; V_{CC} = 1200V; I_C = 1500A; R_G = 1.5Ω; $L_σ$ = 100nH		1400		mJ
E_{off}			1450		mJ
R_{thJC}				0.008	K/W

① Collector emitter saturation voltage is given at chip level

IXYS reserves the right to change limits, test conditions and dimensions.

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Diode

Symbol	Conditions	Maximum Ratings	
I_{F80}	$T_C = 80°C$	1500	A
I_{FSM}	$V_R = 0\ V$; $T_{VJ} = 125°C$; $t_p = 10\ ms$; half-sinewave	13000	A

Symbol	Conditions	min.	typ.	max.	
V_F ②	$I_F = 1500\ A$; $T_{VJ} = 25°C$		2.30		V
	$T_{VJ} = 125°C$		2.35		V
I_{RM}	$V_{CC} = 1200\ V$; $I_C = 1500\ A$;		1100		A
t_{rr}	$V_{GE} = ±15\ V$; $R_G = 1.5\ Ω$; $T_{VJ} = 125°C$		1500		ns
Q_{RR}	Inductive load; $L_σ = 100nH$		925		µC
E_{rec}			800		mJ
R_{thJC}				0.016	K/W

② Forward voltage is given at chip level

Module

Symbol	Conditions	Maximum Ratings	
T_{JM}	max junction temperature	+150	°C
T_{VJ}	Operating temperature	-40...+125	°C
T_{stg}	Storage temperature	-40...+125	°C
V_{ISOL}	50 Hz	5000	V~
M_d	Mounting torque Base-heatsink, M6 screws	4 - 6	Nm
	Main terminals, M8 screws	8 - 10	Nm

Symbol	Conditions		min.	typ.	max.	
d_A	Clearance distance	terminal to base	23			mm
		terminal to terminal	19			mm
d_S	Surface creepage	terminal to base	33			mm
	distance	terminal to terminal	33			mm
$L_σ$	Module stray inductance, C to E terminal			10		nH
$R_{term-chip}$ *	Resistance terminal to chip			0.12		mΩ
R_{thCH}	per module; λ grease = 1 W/m•K			0.006		K/W
Weight				1500		g

*) $V = V_{CE(sat)} + R_{term-chip} \cdot I_C$ resp. $V = V_F + R_{term-chip} \cdot I_F$

PHASE-OUT

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Outline drawing
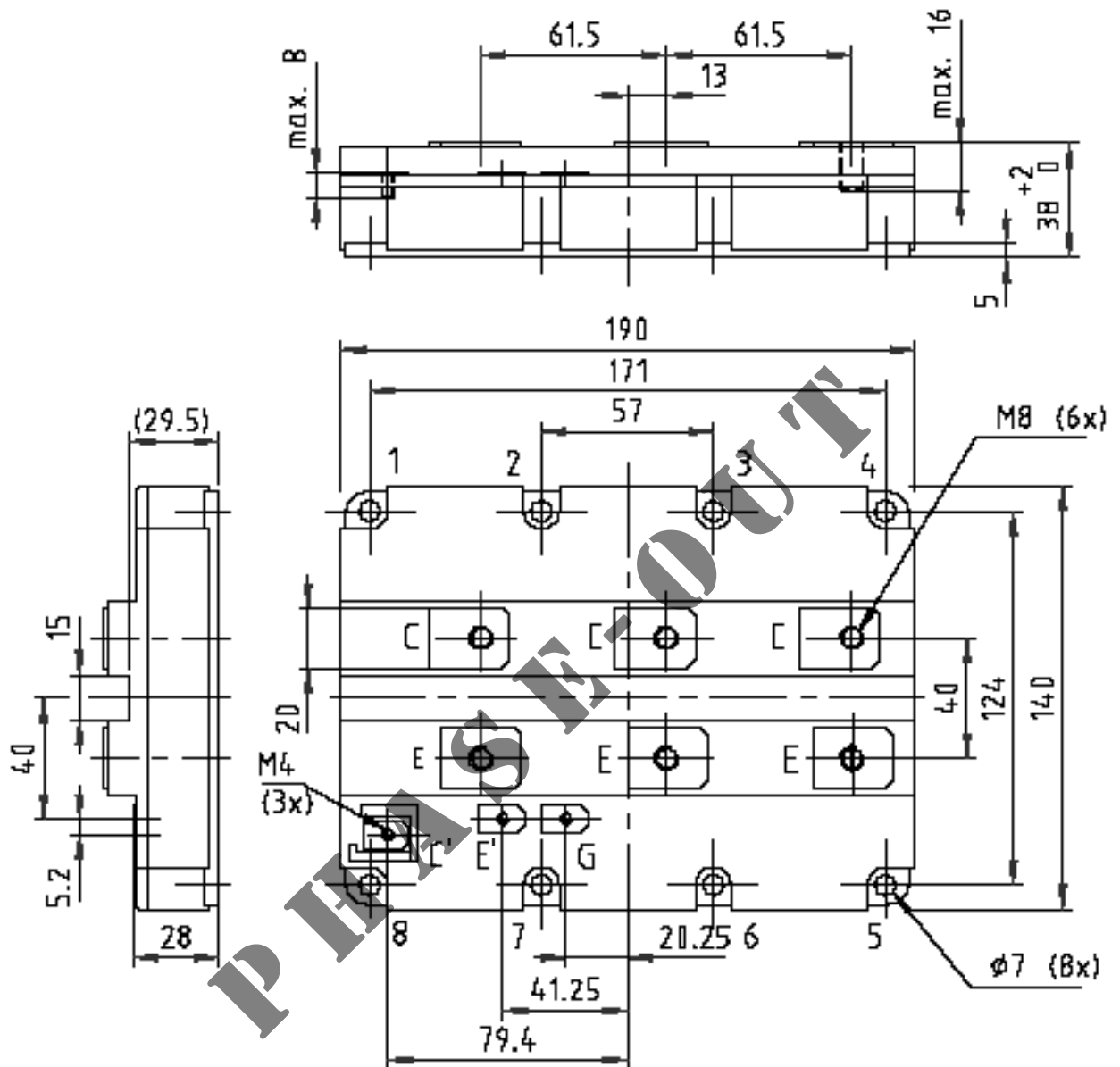
Note: all dimensions are shown in mm