

# AN5700

## Part Numbering Nomenclature for IGBT & FRD Modules

### Application Note

Replaces AN5700-5

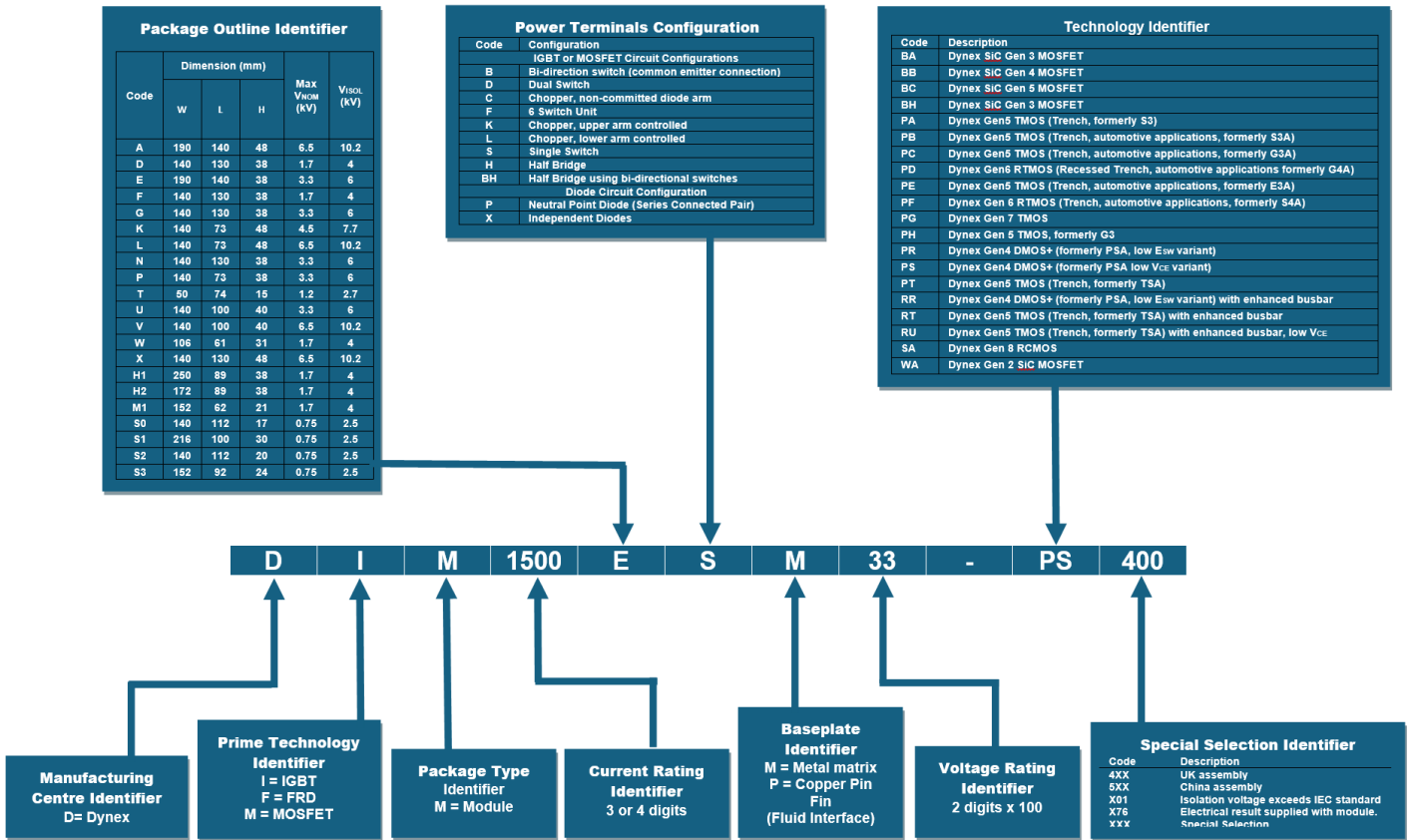
AN5700-6 August 2025 LN44278

## Introduction

Dynex IGBT modules come in a variety of blocking voltages, current capacity, circuit configuration dimensions and isolation voltages; The purpose of this application note is to provide an explanation of the Dynex module nomenclature system.



## IGBT & FRD Module Nomenclature



**Example Model Number**  
DIM1500ESM33-PS400

### Manufacturing Centre Identifier

**D**IM1500ESM33-PS400

Code	Description
D	Dynex

### Prime Technology Identifier

**I**M1500ESM33-PS400

Code	Description
I	IGBT
F	FRD

## Collector Current Rating Identifier

DIM**1500**ESM33-PS400

Collector current  $I_C$  rating may be three or four characters in length; i.e. a 500A module will read as a DIM**500**XSM65-PS400.

## Package Outline Identifier

DIM1500**E**SM33-PS400

Code	Dimension (mm)			Max $V_{NOM}$ (kV)	$V_{ISOL}$ (kV)
	W	L	H		
A	190	140	48	6.5	10.2
D	140	130	38	1.7	4
E	190	140	38	3.3	6
F	140	130	38	1.7	4
G	140	130	38	3.3	6
K	140	73	48	4.5	7.7
N	140	130	38	3.3	6
P	140	73	38	3.3	6
U	140	100	40	3.3	6
V	140	100	40	6.5	10.2
W	106	61	30	1.7	4
X	140	130	48	6.5	10.2
H1	250	89	38	1.7	4
H2	172	89	38	1.7	4
M1	152	62	21	1.7	4
S0	140	112	17	0.75	2.5
S1	216	100	30	0.75	2.5
S2	140	112	20	0.75	2.5
S3*	152	92	24	0.75	2.5

\*Standard tab option use special selection 500, for Long tab option use special selection 502

### Power Terminals Configuration Identifier

DIM1500ESM33-PS400

Modules may be configured in the following options:

		<b>IGBT Circuit Configuration</b>
<b>Code</b>	<b>Configuration</b>	
B	Bi-direction switch (common emitter connection)	
D	Dual Switch	
C	Chopper, non-committed diode arm	
F	6 Switch Unit	
K	Chopper, upper arm controlled	
L	Chopper, lower arm controlled	
S	Single Switch	
H	Half Bridge	
		<b>Diode Circuit Configuration</b>
P	Neutral Point Diode (Series Connected Pair)	
X	Independent Diodes	

### Baseplate Material Identifier

DIM1500ESM33-PS400

<b>Letter</b>	<b>Baseplate Material</b>
M	Metal Matrix
P	Copper Pin Fin Base (Fluid interface)
S	Copper Flat Base

### Voltage Rating Identifier

DIM1500ESM33-PS400

Multiply two-digit voltage rating identifier by 100.

## Technology Identifier

DIM1500ESM33-**PS**400

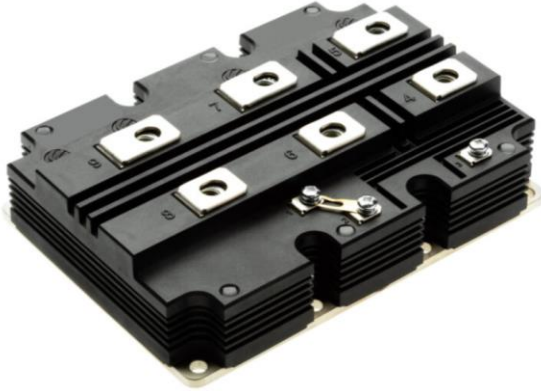
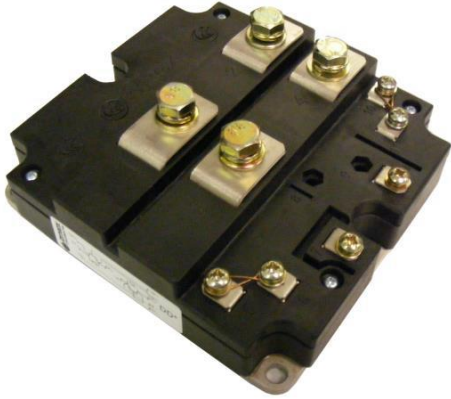

Code	Description
BA	Dynex SiC Gen 3 MOSFET
BB	Dynex SiC Gen 4 MOSFET
BC	Dynex SiC Gen 5 MOSFET
BH	Dynex SiC Gen 3 MOSFET
PA	Dynex Gen5 TMOS (Trench, formerly S3)
PB	Dynex Gen5 TMOS (Trench, automotive applications, formerly S3A)
PC	Dynex Gen5 TMOS (Trench, automotive applications, formerly G3A)
PD	Dynex Gen6 RTMOS (Recessed Trench, automotive applications formerly G4A)
PE	Dynex Gen5 TMOS (Trench, automotive applications, formerly E3A)
PF	Dynex Gen 6 RTMOS (Trench, automotive applications, formerly S4A)
PG	Dynex Gen 7 TMOS
PH	Dynex Gen 5 TMOS, formerly G3
PR	Dynex Gen4 DMOS+ (formerly PSA, low $E_{SW}$ variant)
PS	Dynex Gen4 DMOS+ (formerly PSA low $V_{CE}$ variant)
PT	Dynex Gen5 TMOS (Trench, formerly TSA)
RR	Dynex Gen4 DMOS+ (formerly PSA, low $E_{SW}$ variant) with enhanced busbar
RT	Dynex Gen5 TMOS (Trench, formerly TSA) with enhanced busbar
RU	Dynex Gen5 TMOS (Trench, formerly TSA) with enhanced busbar, low $V_{CE}$
SA	Dynex Gen 8 RCMOS
WA	Dynex Gen 2 SiC MOSFET




## Special Selection Identifier




DIM1500ESM33-PS**400**


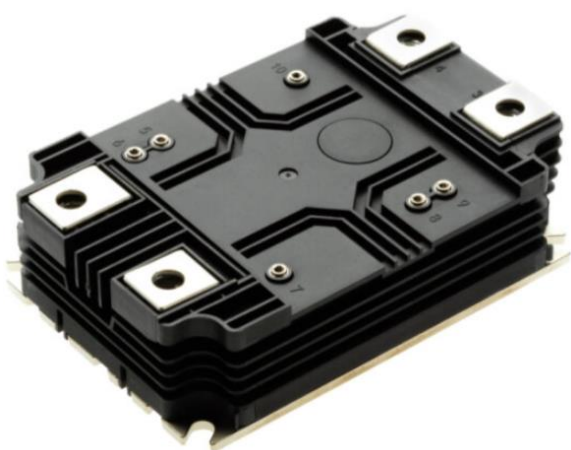

Code	Description
4XX	UK assembly
5XX	China assembly
X01	Isolation voltage exceeds IEC standard for blocking voltage
X76	Electrical result supplied with module.
XXX	Special Selection


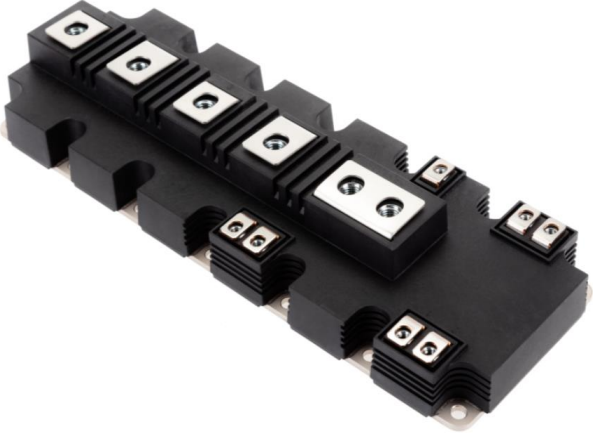
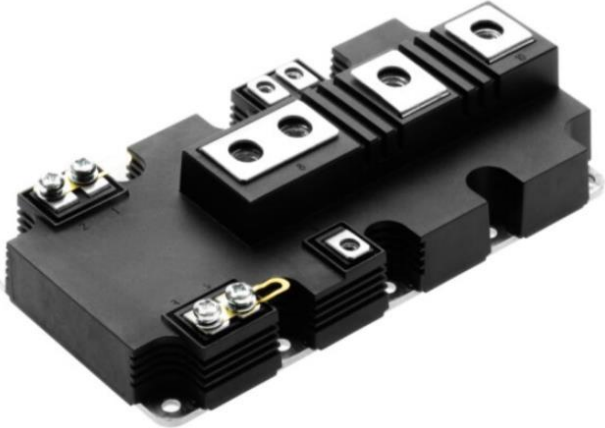
## Annex 1: Package Outline Detailed Description



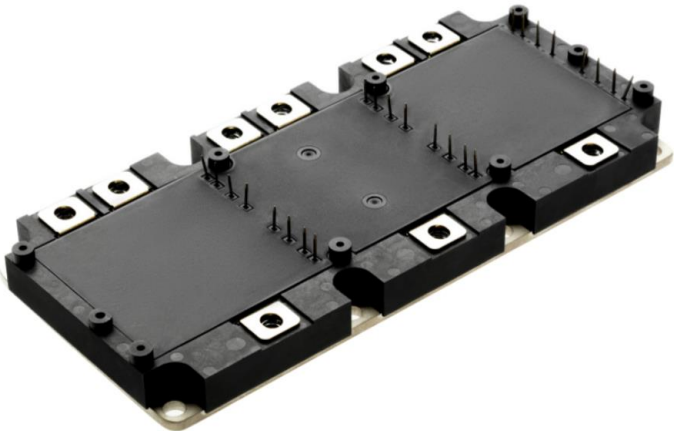
Code	Dimension		Module Appearance
	Max $V_{NOM}$		
	Max $V_{ISOL}$		
A	W (mm)	140	
	L (mm)	190	
	H (mm)	48	
	Max $V_{NOM}$ (kV)	6.5	
	Max $V_{ISOL}$ (kV)	10.2	
D	W (mm)	140	
	L (mm)	130	
	H (mm)	38	
	Max $V_{NOM}$ (kV)	1.7	
	Max $V_{ISOL}$ (kV)	4	
E	W (mm)	140	
	L (mm)	190	
	H (mm)	38	
	Max $V_{NOM}$ (kV)	3.3	
	Max $V_{ISOL}$ (kV)	6	

Code	Dimension	Module Appearance	
F	Max $V_{NOM}$		
	Max $V_{ISOL}$		
	W (mm)		140
	L (mm)		130
	H (mm)		38
G	Max $V_{NOM}$ (kV)		
	Max $V_{ISOL}$ (kV)		4
	W (mm)		140
	L (mm)		130
	H (mm)		38
K	Max $V_{NOM}$ (kV)		
	Max $V_{ISOL}$ (kV)		3.3
	W (mm)		140
	L (mm)		73
	H (mm)		48
	Max $V_{NOM}$ (kV)	4.5	
	Max $V_{ISOL}$ (kV)	7.7	

Code	Dimension Max $V_{NOM}$ Max $V_{ISOL}$	Module Appearance	
<b>L</b>	W (mm)	140	
	L (mm)	73	
	H (mm)	48	
	Max $V_{NOM}$ (kV)	6.5	
	Max $V_{ISOL}$ (kV)	10.2	
<b>N</b>	W (mm)	140	
	L (mm)	130	
	H (mm)	38	
	Max $V_{NOM}$ (kV)	3.3	
	Max $V_{ISOL}$ (kV)	6	
<b>P</b>	W (mm)	140	
	L (mm)	73	
	H (mm)	38	
	Max $V_{NOM}$ (kV)	3.3	
	Max $V_{ISOL}$ (kV)	6	

Code	Dimension		Module Appearance
	Max $V_{NOM}$		
	Max $V_{ISOL}$		
U	W (mm)	140	
	L (mm)	100	
	H (mm)	40	
	Max $V_{NOM}$ (kV)	3.3	
	Max $V_{ISOL}$ (kV)	6	
V	W (mm)	140	
	L (mm)	100	
	H (mm)	40	
	Max $V_{NOM}$ (kV)	6.5	
	Max $V_{ISOL}$ (kV)	10.2	
W	W (mm)	106	
	L (mm)	61	
	H (mm)	31	
	Max $V_{NOM}$ (kV)	1.7	
	Max $V_{ISOL}$ (kV)	4	

Code	Dimension		Module Appearance
	Max $V_{NOM}$		
	Max $V_{ISOL}$		
<b>X</b>	W (mm)	140	
	L (mm)	130	
	H (mm)	48	
	Max $V_{NOM}$ (kV)	6.5	
	Max $V_{ISOL}$ (kV)	10.2	
<b>H1</b>	W (mm)	250	
	L (mm)	89	
	H (mm)	38	
	Max $V_{NOM}$ (kV)	1.7	
	Max $V_{ISOL}$ (kV)	4	
<b>H2</b>	W (mm)	172	
	L (mm)	89	
	H (mm)	38	
	Max $V_{NOM}$ (kV)	1.7	
	Max $V_{ISOL}$ (kV)	4	

Code	Dimension Max $V_{NOM}$ Max $V_{ISOL}$	Module Appearance	
<b>M1</b>	W (mm)	156	
	L (mm)	62	
	H (mm)	21	
	Max $V_{NOM}$ (kV)	1.7	
	Max $V_{ISOL}$ (kV)	4	
<b>S0</b>	W (mm)	140	
	L (mm)	112	
	H (mm)	17	
	Max $V_{NOM}$ (kV)	0.75	
	Max $V_{ISOL}$ (kV)	2.5	
<b>S1</b>	W (mm)	216	
	L (mm)	100	
	H (mm)	30	
	Max $V_{NOM}$ (kV)	0.75	
	Max $V_{ISOL}$ (kV)	2.5	

Code	Dimension	Module Appearance
	Max $V_{NOM}$	
	Max $V_{ISOL}$	

**S2**

W (mm)	140
L (mm)	112
H (mm)	20
Max $V_{NOM}$ (kV)	0.75
Max $V_{ISOL}$ (kV)	2.5


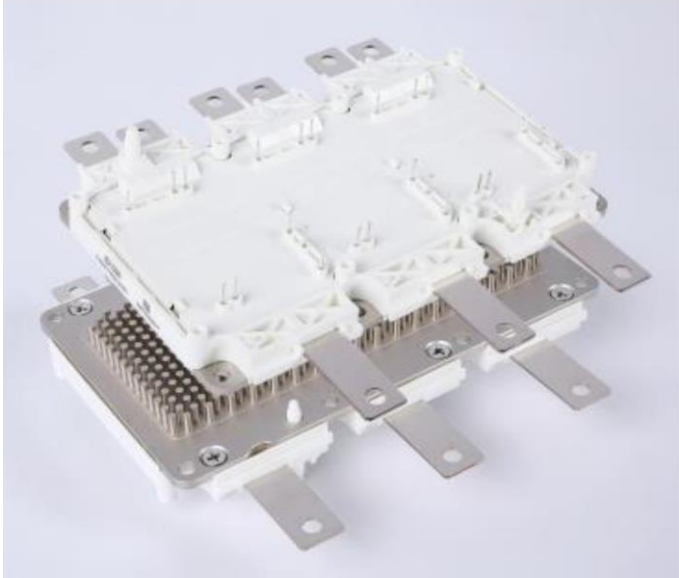
Module Appearance

Flat base Option



Pin Fin Option



Code	Dimension Max $V_{NOM}$ Max $V_{ISOL}$	Module Appearance Pin Fin Base with Short Tab Option
<b>S3</b>	Special Selection 500	
	<p>W (mm) 152</p> <p>L (mm) 92</p> <p>H (mm) 24</p> <p>Max <math>V_{NOM}</math> (kV) 0.75</p> <p>Max <math>V_{ISOL}</math> (kV) 2.5</p>	
	<p>Special selection 502</p> <p>W (mm) 152</p> <p>L (mm) 92</p> <p>H (mm) 24</p> <p>Max <math>V_{NOM}</math> (kV) 0.75</p> <p>Max <math>V_{ISOL}</math> (kV) 2.5</p>	Pin Fin Base with Long Tab Option
		

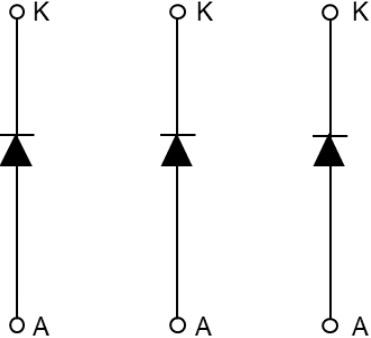
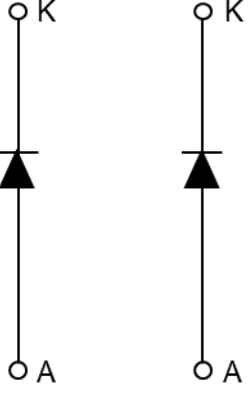
### Annex 2: Circuit Configuration

Note: Terminal identifiers may change dependent on selected package, refer to individual datasheet for correct terminal alias.

Code	Configuration	Circuit
<b>B</b>	Bi-directional switch	
<b>D</b>	Dual Switch	
<b>C</b>	Chopper non-committed diode arm	<p data-bbox="699 1440 1281 1462">Available in Packages Outlines: D, G, N &amp; X</p> <p data-bbox="699 1888 1281 1912">Available in Package Outlines: A &amp; E</p>

Code	Configuration	Circuit
<p><b>F</b></p>	<p>6 Switch Unit</p>	
		<p>Available in Package Outlines: S0, S2 &amp; S3</p>
<p><b>K</b></p>	<p>Chopper, upper arm controlled</p>	
		<p><b>L</b></p>

Code	Configuration	Circuit
<b>S</b>	Single Switch	<p>Available in Package Outlines: A, E</p>
		<p>Available in Package Outlines: F, N, X</p>
<b>H</b>	Half Bridge	
<b>BH</b>	Bi-directional half bridge	
<b>P</b>	Neutral Point Connection (Series Connected Pair)	<p>Available in Package Outline P</p>

Code	Configuration	Circuit
<p><b>X</b></p>	<p>Independent Diodes</p>	 <p>Available in Package Outlines A &amp; E</p>
		 <p>Available in Package Outlines D &amp; X</p>

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