

International
IOR Rectifier

100MT160PB Series

THREE PHASE BRIDGE

Power Module

40 A
 70 A
 100 A

Features

- High thermal conductivity package, electrically insulated case
- 4000 V_{RMS} isolating voltage

Major Ratings and Characteristics

Parameters	40MT160PB	70MT160PB	100MT160PB	Units
I_o	40	70	100	A
@T _C	100	80	80	°C
I_{FSM} @50Hz	350	400	450	A
@60Hz	370	420	470	
I^2t @50Hz	613	800	1013	A ² s
@60Hz	570	735	920	
$I^2\sqrt{t}$	6130	8000	10130	A ² √s
V _{RRM}	1600			V
T _{STG} range	-40 to 150			°C
T _J range	-40 to 150			

100MT160PB Series

Target Data rev. A 05/01

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IOR Rectifier**ELECTRICAL SPECIFICATIONS****Voltage Ratings**

Type number	Voltage Code V	V_{RRM} maximum repetitive peak reverse voltage V	V_{RSM} maximum non-repetitive peak reverse voltage V	I_{RRM} max. @ $T_J = 125^\circ\text{C}$ mA
MT160P	160	1600	1700	5

Forward Conduction

Parameter		40MT	70MT	100MT	Units	Conditions		
I _O	Maximum RMS output current @ Case temperature	40	70	100	A	120° Rect conduction angle		
		100	80	80	°C			
I _{TSM}	Maximum peak, one-cycle forward, non-repetitive on state surge current	350	400	450	A	t = 10ms	No voltage	Initial T _J = T _J max.
		370	420	470		t = 8.3ms	reapplied	
		280	330	400		t = 10ms	100% V _{RRM}	
		300	350	420		t = 8.3ms	reapplied	
I ² t	Maximum I ² t for fusing	613	800	1013	A ² s	t = 10ms	No voltage	
		570	735	920		t = 8.3ms	reapplied	
		392	545	800		t = 10ms	100% V _{RRM}	
		375	510	735		t = 8.3ms	reapplied	
I ² √t	Maximum I ² √t for fusing	6130	8000	10130	A ² √s	t = 0.1 to 10ms, no voltage reapplied		
V _{T(TO)}	Value of threshold voltage	0.85	0.83	0.82	V	@ T _J max.		
r _t	Low level value on-state	10.5	9.9	7.1	mΩ			
V _{TM}	Maximum on-state voltage drop	1.2 I _{pk} = 40A	1.45 I _{pk} = 70A	1.57 I _{pk} = 100A	V	T _J = 25°C t _p = 400μs single junction		

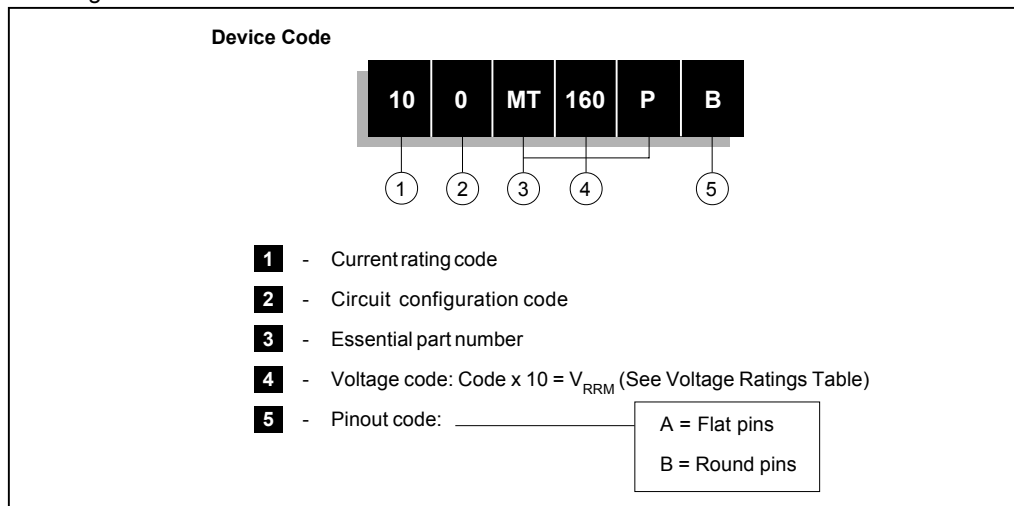
Isolation Table

V_{INS} RMS isolation voltage	4000	V	$T_J = 25^\circ\text{C}$ all terminal shorted f = 50Hz, t = 1s
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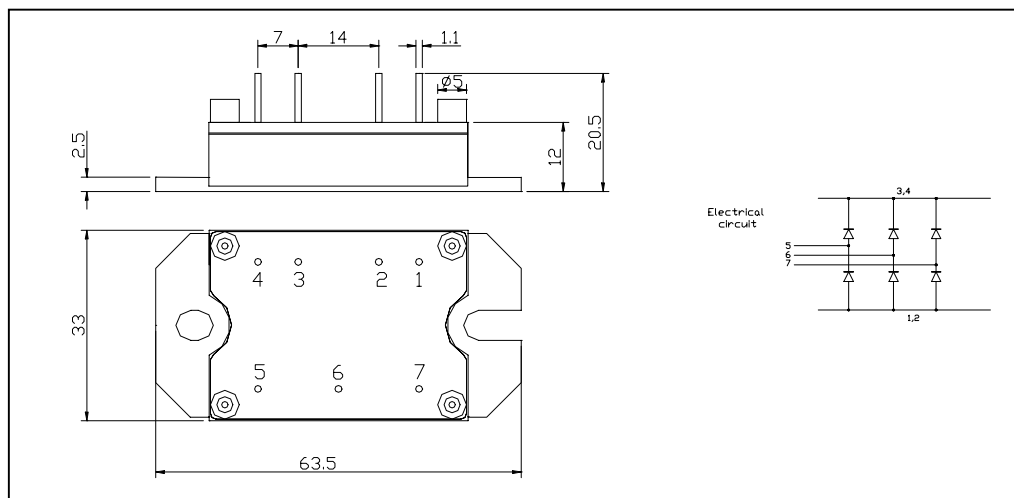
Thermal and Mechanical Specifications

Parameter	...MT160PB	Units	Conditions
T_J Maximum junction operating temperature range	- 40 to 150	$^\circ\text{C}$	
T_{stg} Maximum storage temperature range	-40 to 150	$^\circ\text{C}$	
R_{thJC} Maximum thermal resistance, junction to case	0.26 1.6 0.416 2.5	0.23 1.38 0.33 2.00	0.17 1.0 0.23 1.4
R_{thCS} Maximum thermal resistance, case to heatsink	0.1	K/W	DC operation per module DC operation per junction 120° Rect conduction angle per module 120° Rect conduction angle per junction
T Mounting torque $\pm 10\%$ to heatsink	4	Nm	Per module Mounting surface smooth, flat and greased
wt Approximate weight	60 80	g	A type B type

Ordering Information Table



Outline Table



Data and specifications subject to change without notice.
This product has been designed and qualified for Industrial Level.
Qualification Standards can be found on IR's Web site.

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