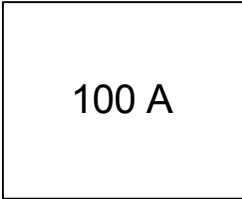


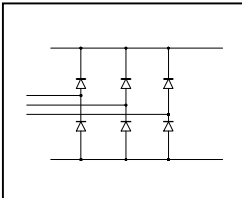
THREE PHASE BRIDGE

Power Module



Features

- Solderable nickel plated terminals
- UL under approval



Major Ratings and Characteristics

Parameters	100MT...P	Units
I_O	100	A
@ T_C	80	°C
I_{FSM} @ 50Hz	450	A
@ 60Hz	470	
I^2_t @ 50Hz	1013	A ² s
@ 60Hz	920	
$I^2\sqrt{t}$	10130	A ² √s
V_{RRM}	1400 & 1600	V
T_{STG} range	-40 to 125	°C
T_J range	-40 to 150	

100MT160P

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International
IR Rectifier**ELECTRICAL SPECIFICATIONS**

Voltage Ratings

Type number	Voltage Code reverse voltage V	V_{RRM} , maximum repetitive peak reverse voltage V	V_{RSM} , maximum non-repetitive peak V	I_{RRM} max. @ $T_J = 125^\circ\text{C}$ mA
100MT140P	140	1400	1500	5
100MT160P	160	1600	1700	

Forward Conduction

Parameter	100MT...P	Units	Conditions
I_O Maximum RMS output current @ Case temperature	100	A	120° Rect conduction angle
	80	$^\circ\text{C}$	
I_{FSM} Maximum peak, one-cycle forward, non-repetitive on state surge current	450	A	t = 10ms No voltage
	470		t = 8.3ms reappplied
	380		t = 10ms 100% V_{RRM}
	400		t = 8.3ms reappplied
I^2t Maximum I^2t for fusing	1013	A^2s	t = 10ms No voltage
	920		t = 8.3ms reappplied
	600		t = 10ms 100% V_{RRM}
	665		t = 8.3ms reappplied
$I^2\sqrt{t}$ Maximum $I^2\sqrt{t}$ for fusing	10130	$\text{A}^2\sqrt{\text{s}}$	t = 0.1 to 10ms, no voltage reappplied
$V_{F(TO)}$ Value of threshold voltage	0.75	V	@ T_J max.
r_t Slope resistance	8.1	$\text{m}\Omega$	
V_{FM} Maximum forward voltage drop	1.51	V	$I_{pk} = 100\text{A}$, $T_J = 25^\circ\text{C}$ $t_p = 400\mu\text{s}$ single junction

Insulation Table

Parameter	100MT...P	Units	Conditions
V_{INS} RMS insulation voltage	3500	V	$T_J = 25^\circ\text{C}$ all terminal shorted f = 50Hz, t = 1s

Thermal and Mechanical Specifications

Parameter	100MT...P	Units	Conditions
T_J Maximum junction operating temperature range	- 40 to 150	°C	
T_{stg} Maximum storage temperature range	-40 to 125	°C	
R_{thJC} Maximum thermal resistance, junction to case	0.19	K/W	DC operation per module
	1.14		DC operation per junction
	0.22		120° Rect conduction angle per module
	1.29		120° Rect conduction angle per junction
R_{thCS} Maximum thermal resistance, case to heatsink	0.1	K/W	Per module. Mounting surface smooth, flat and greased. Heatsink compound thermal conductivity = 0.42W/mK
T Mounting torque $\pm 10\%$ to heatsink	4	Nm	A mounting compound is recommended and the torque should be rechecked after a period of 3 hours to allow for the spread of the compound.
wt Approximate weight	65	g	Lubricated threads.

Ordering Information Table

Device Code

The diagram shows a device code structure with six segments: 10, 0, MT, 160, P, and B. Below these segments are five numbered circles (1 to 5). Lines connect the segments to the circles: 10 to 1, 0 to 2, MT to 3, 160 to 4, and P to 5. The segment B is not connected to any circle.

- 1** - Current rating code
- 2** - Circuit configuration code
- 3** - Essential part number
- 4** - Voltage code: Code x 10 = V_{RRM} (See Voltage Ratings table)
- 5** - Pinout code: _____

A = Flat pins

B = Round pins

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IOR Rectifier

100MT...PA
(Flat pin)

Electrical circuit

Dimensions in millimeters

[illegible]

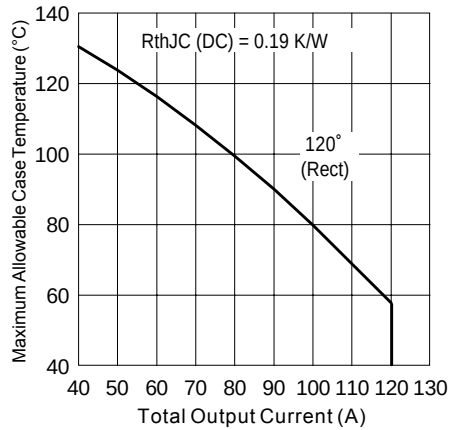


Fig. 1 - Current Rating Characteristics

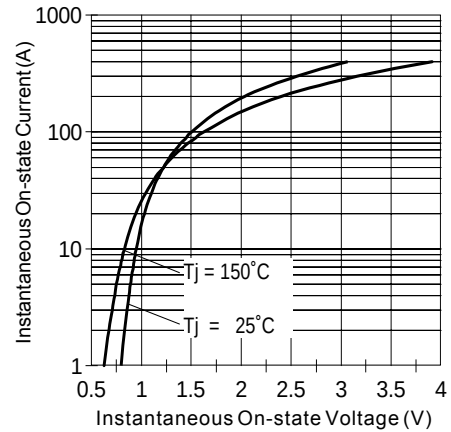


Fig. 2 - On-state Voltage Drop Characteristics

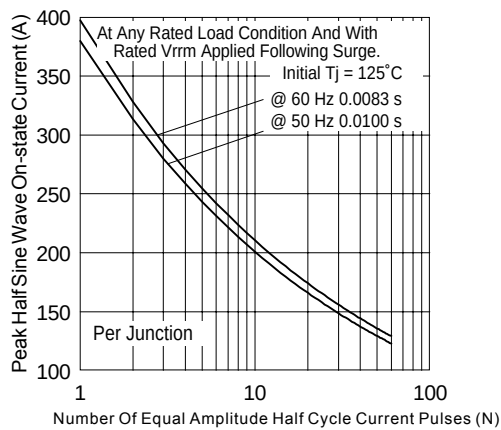


Fig. 3 - Maximum Non-Repetitive Surge Current

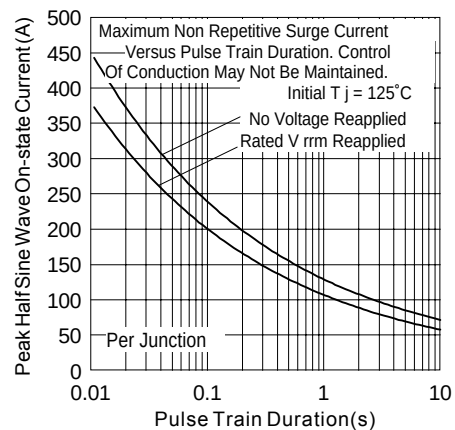


Fig. 4 - Maximum Non-Repetitive Surge Current

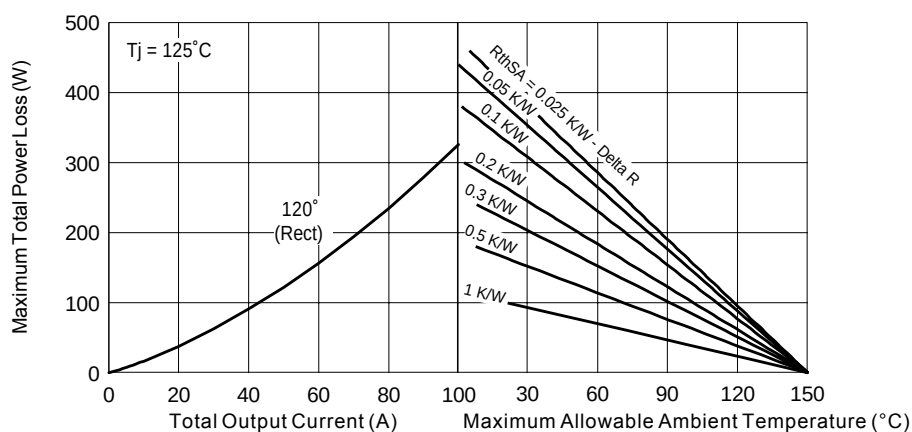


Fig. 5 - Current Rating Nomogram (1 Module Per Heatsink)

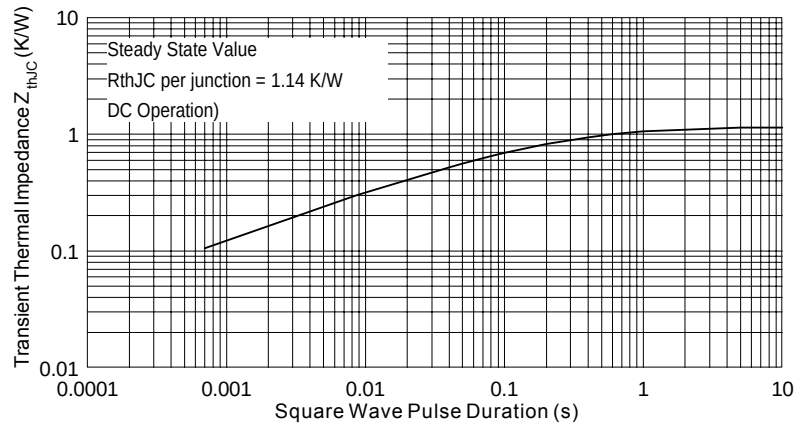


Fig. 6 - Thermal Impedance Z_{thJC} Characteristics

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.

International
IR Rectifier

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