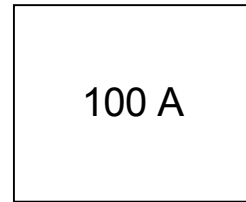


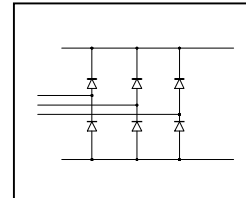
THREE PHASE BRIDGE

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^2t @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

Preliminary Data Sheet I27405 07/01

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	°C	
I_{FSM} Maximum peak, one-cycle forward, non-repetitive on state surge current	450	A	t = 10ms No voltage
	470		t = 8.3ms reapplied
	380		t = 10ms 100% V_{RRM}
	400		t = 8.3ms reapplied
I^2t Maximum I^2t for fusing	1013	A ² s	t = 10ms No voltage
	920		t = 8.3ms reapplied
	600		t = 10ms 100% V_{RRM}
	665		t = 8.3ms reapplied
$I^2\sqrt{t}$ Maximum $I^2\sqrt{t}$ for fusing	10130	A ² √s	t = 0.1 to 10ms, no voltage reapplied
$V_{F(TO)}$ Value of threshold voltage	0.75	V	@ T_J max.
r_t Slope resistance	8.1	mΩ	
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 ± 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

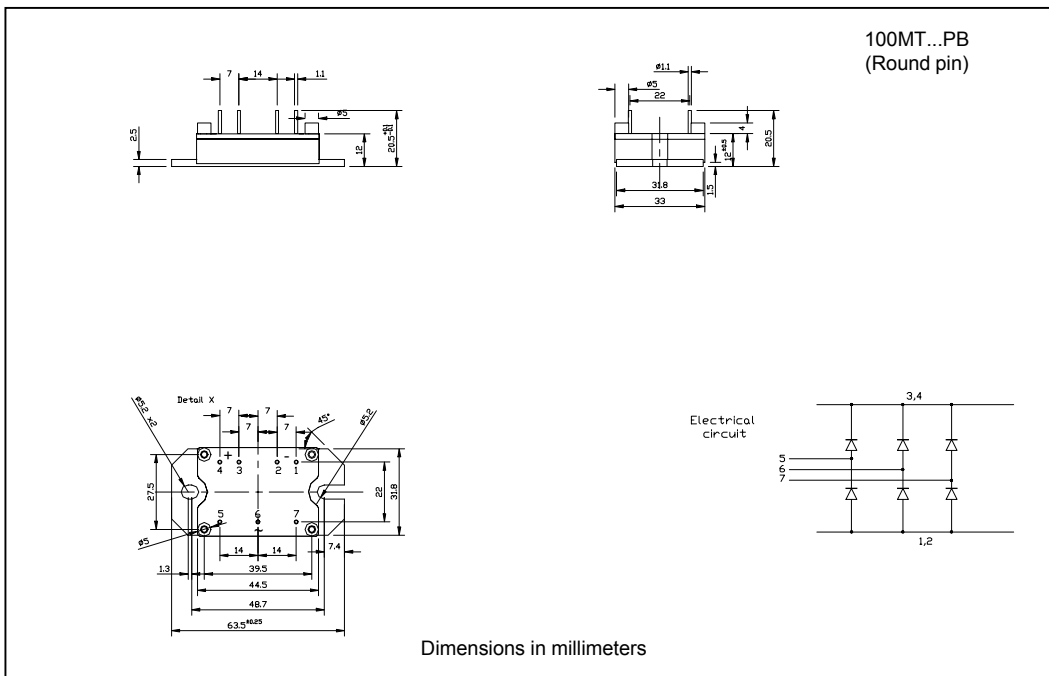
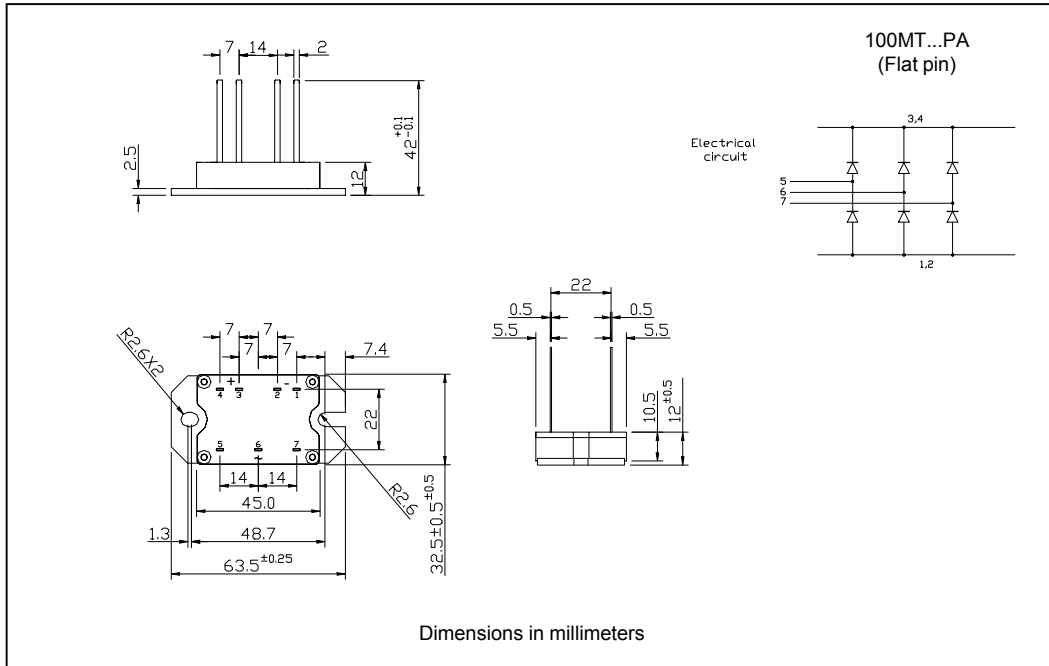
Device Code

- 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

100MT160P

Preliminary Data Sheet I27405 07/01

Outline Table



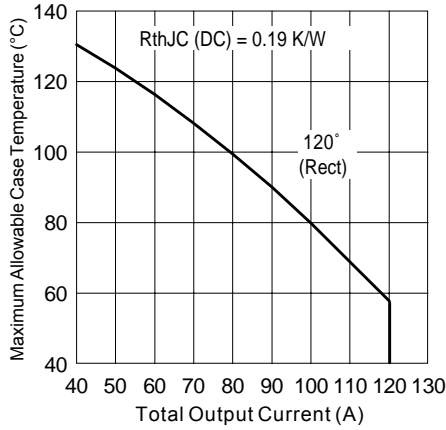


Fig. 1 - Current Rating Characteristics

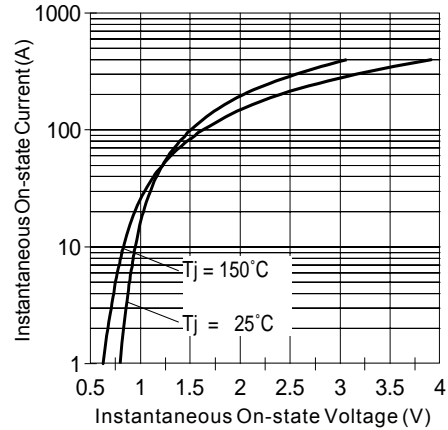


Fig. 2 - On-state Voltage Drop Characteristics

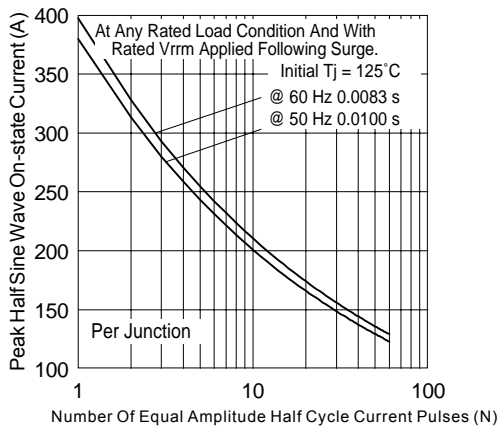


Fig. 3 - Maximum Non-Repetitive Surge Current

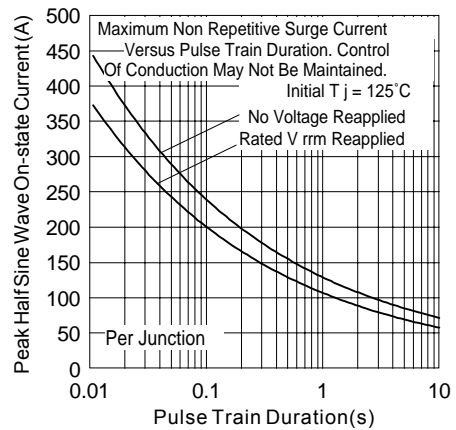


Fig. 4 - Maximum Non-Repetitive Surge Current

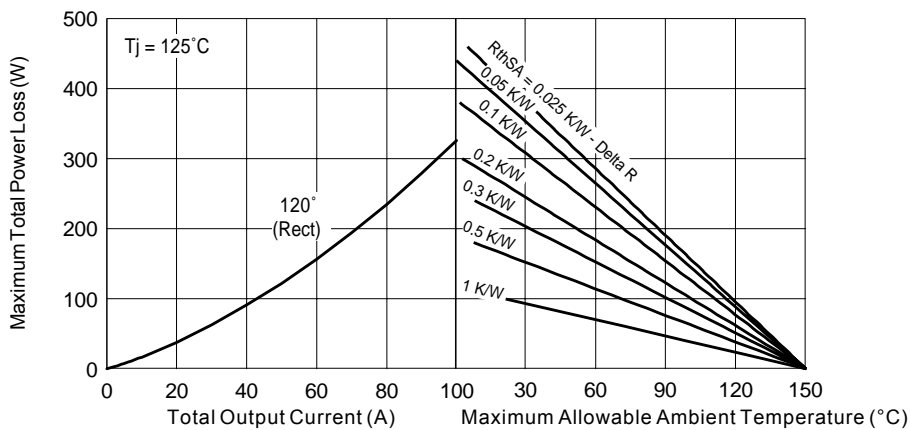


Fig. 5 - Current Rating Nomogram (1 Module Per Heatsink)

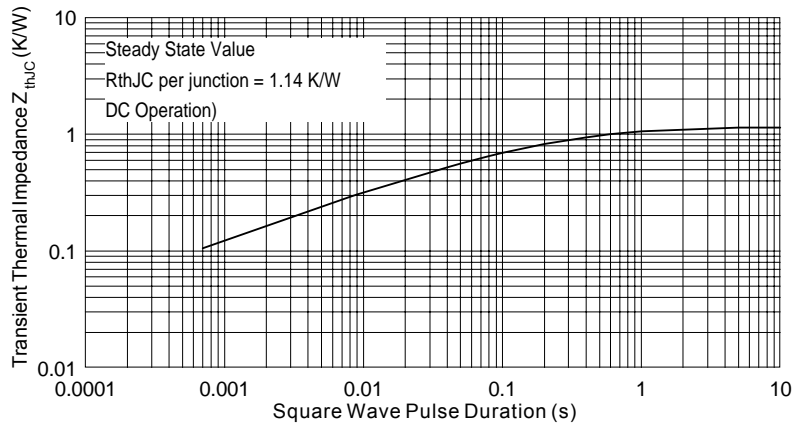


Fig. 6 - Thermal Impedance Z_{thJC} Characteristics

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.