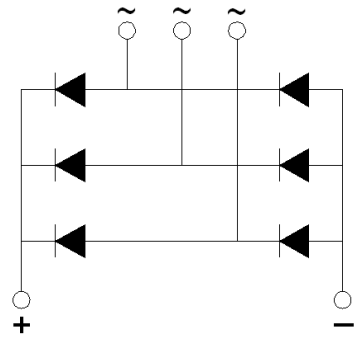
THREE PHASE BRIDGE

Features

- Low V_F
- Direct Mounting to heatsink
- Low profile package
- Glass Passivation Chip
- Easy Connection
- Insulated Type



Inner Curcuit Schematic

Typical Applications

- Inverters
- Welding
- UPS
- SMPS
- Battery Chargers
- DC Motors
- General Purpose DC Power Supplies

Major Ratings and Characteristics

Parameters		DPC300A 1K6V	Units
I_O		300	A
	@ T_C	105	°C
I_{FSM}	@ 50Hz	480	A
	@ 60Hz	620	A
I^2t	@ 50Hz	1370	A^2s
	@ 60Hz	1230	A^2s
V_{DRM}/V_{RRM}		400 to 1600	V
T_J	range	- 40 to 150	°C

ELECTRICAL SPECIFICATIONS

Voltage Ratings

Type number	Voltage Code	V_{RRM} /V_{DRM}, maximum repetitive peak reverse voltage V	V_{RSM}, maximum non-repetitive peak rev. voltage V	I_{RRM} /I_{DRM} max. @ T_J = T_J max. mA
DPC300A .	04	400	500	5
	08	800	900	
	12	1200	1300	
	14	1400	1500	
	16	1600	1700	

Forward Conduction

Parameter		DPC300A	Units	Conditions		
I_O	Maximum DC output current	300	A	120° Rect conduction angle		
	@ Case temperature	105	°C			
I_{FSM},	Maximum peak, one-cycle	480	A	t = 10ms	No voltage	Initia
	forward, non-repetitive	620		t = 8.3ms	reapplied	
	on state surge current	430		t = 10ms	100% V_{RRM}	
		460		t = 8.3ms	reapplied	
I^2t	Maximum I^2t for fusing	1370	A^2s	t = 10ms	No voltage	T_J = T_J max.
		1230		t = 8.3ms	reapplied	
		620		t = 10ms	100% V_{RRM}	
		690		t = 8.3ms	reapplied	
$I^2\sqrt{t}$	Maximum $I^2\sqrt{t}$ for fusing	15100	$A^2\sqrt{s}$	t = 0.1 to 10ms, no voltage reapplied		
V_{FM}	Maximum forward voltage drop	1.25	V	pk = 160A, T_J = 25°C, t p = 400 µs single junction		

Insulation Table

Parameter		DPC300A.	Units	Conditions
V_{INS}	RMS insulation voltage	2500	V	T = 25 °C all terminal shorted f = 50Hz, t = 1s

Thermal and Mechanical Specifications

Parameter		DPC300A.	Units	Conditions
T_J	Maximum junction operating temperature range	- 40 to 150	°C	
T_{stg}	Maximum storage temperature range	- 40 to 150	°C	
R_{thJC}	Maximum thermal resistance, junction to case	0.1	K/W	DC operation per module
		1.0		DC operation per junction
		0.12		120° Rect conduction angle per module
		1. 0		120° Rect conduction angle per junction
R_{thJC}	Maximum $I^2\sqrt{t}$ for fusing	0.10	K/W	Per module. Mounting surface smooth, flat and greased. Heatsink compound thermal conductivity = 0.42W/mK
T	Mounting torque ± 10% to heatsink	3	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.Lubricated threads.
wt	Approximate weight	458	g	

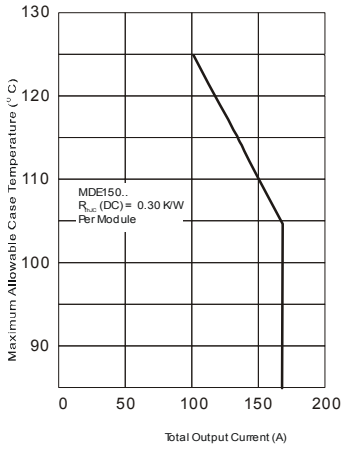
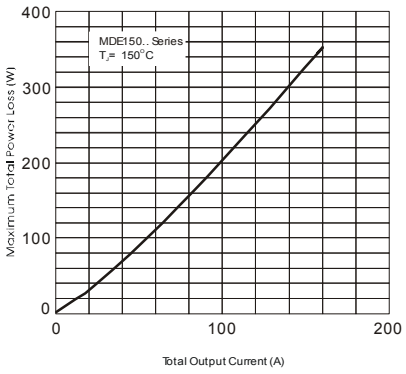
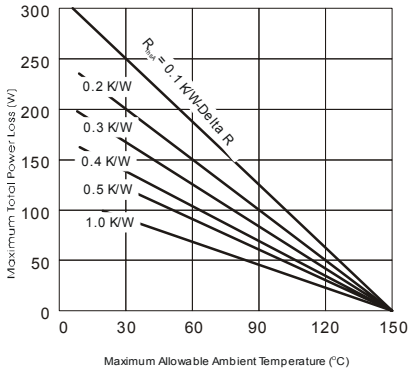


Fig. 1 - Current Rating Characteristics





Outline Table