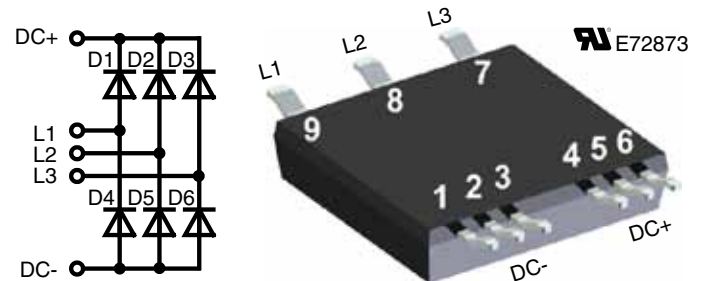


# Three Phase Rectifier Bridge ISOPLUS™ Surface Mount Power Device

$V_{RRM} = 1800\text{ V}$   
 $I_{d(AV)M} = 99\text{ A}$   
 $I_{FSM} = 320\text{ A}$



### Rectifier Bridge

Symbol	Conditions	Maximum Ratings	
$V_{RRM}$		1800	V
$I_{dAV}$	$T_C = 80^\circ\text{C}$ , sine 180° (per diode)	38	A
$I_{dAVM}$	$T_C = 80^\circ\text{C}$ , rect. 120°	99	A
$I_{FSM}$	$T_{VJ} = 45^\circ\text{C}$ ; $t = 10\text{ ms}$ (50 Hz); $V_R = 0\text{ V}$	320	A
	$T_{VJ} = 150^\circ\text{C}$ ; $t = 10\text{ ms}$ (60 Hz); $V_R = 0\text{ V}$	280	A
$I^2t$	$T_{VJ} = 45^\circ\text{C}$ ; $t = 10\text{ ms}$ (50 Hz); $V_R = 0\text{ V}$	510	A <sup>2</sup> s
	$T_{VJ} = 150^\circ\text{C}$ ; $t = 10\text{ ms}$ (60 Hz); $V_R = 0\text{ V}$	390	A <sup>2</sup> s
$P_{tot}$	$T_{VJ} = 25^\circ\text{C}$ (per diode)	110	W

### Features

- **Rectifier diode**
  - 1800 V blocking voltage
- **Package**
  - isolated back surface
  - low coupling capacity between pins and heatsink
  - enlarged creepage towards heatsink
  - application friendly pinout
  - low inductive current path
  - high reliability

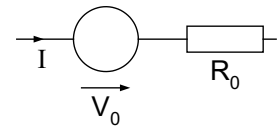
### Applications

- 3phase input rectifier for drive applications, SMPS or UPS

Symbol	Conditions	Characteristic Values			
		(T <sub>VJ</sub> = 25°C, unless otherwise specified)			
		typ.	max.		
$V_F$	$I_F = 30\text{ A}$	$T_{VJ} = 25^\circ\text{C}$		1.3	V
		$T_{VJ} = 125^\circ\text{C}$			V
$I_R$	$V_R = V_{RRM}$	$T_{VJ} = 25^\circ\text{C}$		0.1	mA
	$V_R = V_{RRM}$	$T_{VJ} = 125^\circ\text{C}$		1.5	mA
$R_{thJC}$	per diode			1.1	K/W
$R_{thCH}$	with heatsink compound	1.5	1.85		K/W

Data according to IEC 60747 and per single diode unless otherwise specified.

Component					
Symbol	Conditions	Maximum Ratings			
$T_{vj}$		-55...+150	°C		
$T_{stg}$		-55...+125	°C		
$V_{ISOL}$	$I_{ISOL} \leq 1 \text{ mA}; 50/60 \text{ Hz}$	2500	V~		
$F_c$	mounting force	40 ... 130	N		
Symbol	Conditions	Characteristic Values			
		min.	typ.	max.	
$C_p$	coupling capacity between shorted pins and backside metal		90		pF
$d_s, d_A$	pin - pin	1.7			mm
$d_s, d_A$	pin - backside metal	4.5			mm
<b>CTI</b>		400			
<b>Weight</b>			8		g

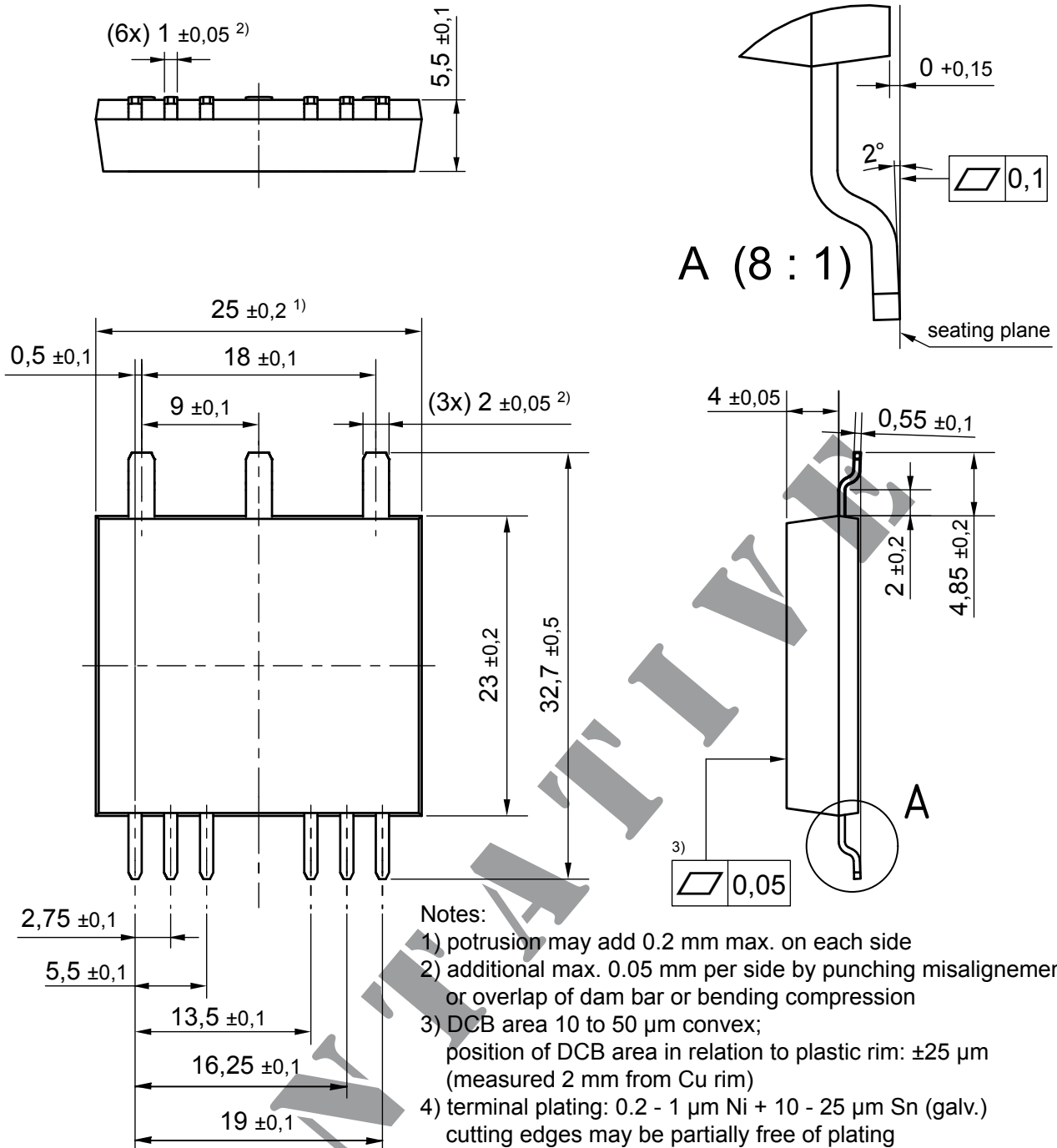
**Equivalent Circuits for Simulation**
**Conduction**


Diode (typ. at  $T_j = 125^\circ\text{C}$ )  
 $V_0 = 0.9 \text{ V}; R_0 = 8.5 \text{ m}\Omega$

Ordering	Part Name	Marking on Product	Delivering Mode	Base Qty	Ordering Code
Standard	DMA90U1800LB	DMA90U1800LB	T&R	200	tbd

TEMPERATURE

Dimensions in mm (1 mm = 0.0394")


**Product Status Definitions and Disclaimers**

Datasheet Identification	Product Status	Definition
Tentative	Tentative	Datasheet represents a tentative draft based on experience and related products.
Advanced Technical Information	Under development/engineering	Datasheet contains the design specifications for product development.
Preliminary	Pilot Production	Datasheet contains preliminary data and supplementary data will be published at a later date.
Without Identification	Serial Production	Datasheet contains final specifications.