

Diode type D83 are of modern design with pressure contacts, high alumina ceramic insulator and cold-welding encapsulation. Designed for use in power rectifying circuits and equipment under normal operating conditions.

## KEY PARAMETERS

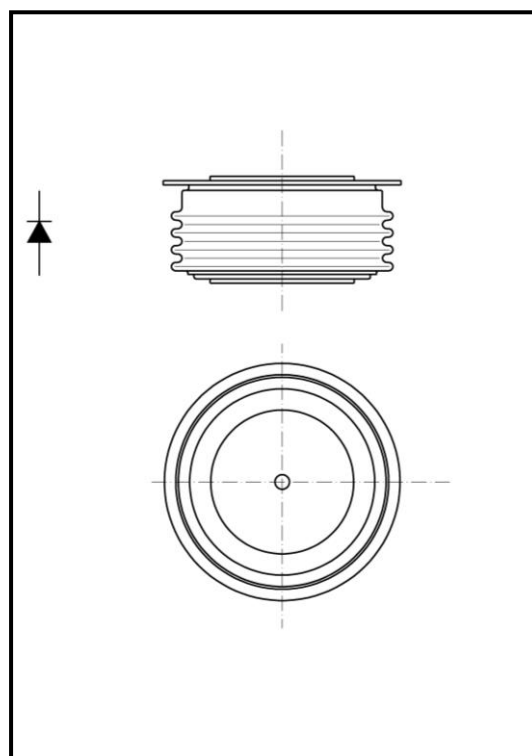
$U_{RRM}$	<b>up to 2000 V</b>
$I_{F(AV)}$	<b>1400 A</b>
$I_{FSM}$	<b>15800 A</b>

## FEATURES

- all diffused design
- high current capabilities
- high surge current capabilities
- high rated voltages
- low thermal impedance
- tested according to IEC standards
- compact size and small weight

## APPLICATION

- High Voltage Power Supplies
- Motor Control
- Battery Chargers
- Free Wheeling Diode
- Resistance Welding



**Outline type code: JEDEC DO-200AB**  
 See Package Details for further information

Designed for use in high power industrial and commercial electronic circuits and equipment where high currents are encountered and high reliability is essential. Low forward voltages let minimize energy loss.

## ORDERING INFORMATION

When ordering please refer to device code builder presented below.  
Please use the complete part number when ordering, quote or in any future correspondence relating to your order.

**D83-1400-**□□

\_\_\_\_\_ voltage class (hundreds of volts)

# D83-1400

## Diode



KKD831400, July 2005 version

### ELECTRICAL PARAMETERS

#### Voltage ratings

Voltage class	$U_{RRM}$	$U_{RSM}$	$I_{RRM}$
	V	V	mA
04	400	500	50
06	600	700	
08	800	900	
10	1000	1100	
12	1200	1300	
14	1400	1500	
16	1600	1700	
18	1800	1900	
20	2000	2100	

#### Electrical properties

Parameter		Unit	Test conditions	Value
Average forward current @ case temperature	$I_{F(AV)}$	A		1400
	$T_c$	°C		85
RMS forward current	$I_{F(RMS)}$	A		2200
Surge current	$I_{FSM}$	A	$T_j=175^\circ\text{C}$ , $U_R=0,8U_{RRM}$ , $t_p=10\text{ms}$	15800
$I^2t$ – value	$I^2t$	$\text{kA}^2\text{s}$		1250
Forward voltage drop max.	$U_{FM}$	V	$T_j=25^\circ\text{C}$ , $I_{FM}=1500\text{A}$	1,25
Threshold voltage	$U_{F(T0)}$	V		0,78
Slope resistance	$r_F$	$\text{m}\Omega$		0,30
Reverse recovery charge	$Q_r$	$\mu\text{C}$	$T_j=25^\circ\text{C}$ , $I_{FM}=1500\text{A}$ , $di_R/dt=25\text{A}/\mu\text{s}$	3300

#### Thermal properties

Parameter		Unit	Test conditions	Value
Thermal resistance, junction to case	$R_{thJC}$	°C/W	two sided, DC	0,032
Thermal resistance, case to heatsink	$R_{thCS}$	°C/W	two sided	0,02
Operating junction temperature	$T_{jmin} \dots T_{jmax}$	°C		-40...+175
Storage temperature	$T_{stg}$	°C		-40...+175

**Zakłady Elektronowe LAMINA S.A.**  
Puławska 34  
PL-05-500 Piaseczno  
POLAND

Tel.: +48-22-7572731  
Tel.: +48-22-3989409  
Fax.: +48-22-3989407  
e-mail: sekretariat@lamina.com.pl  
www.lamina.com.pl

# D83-1400

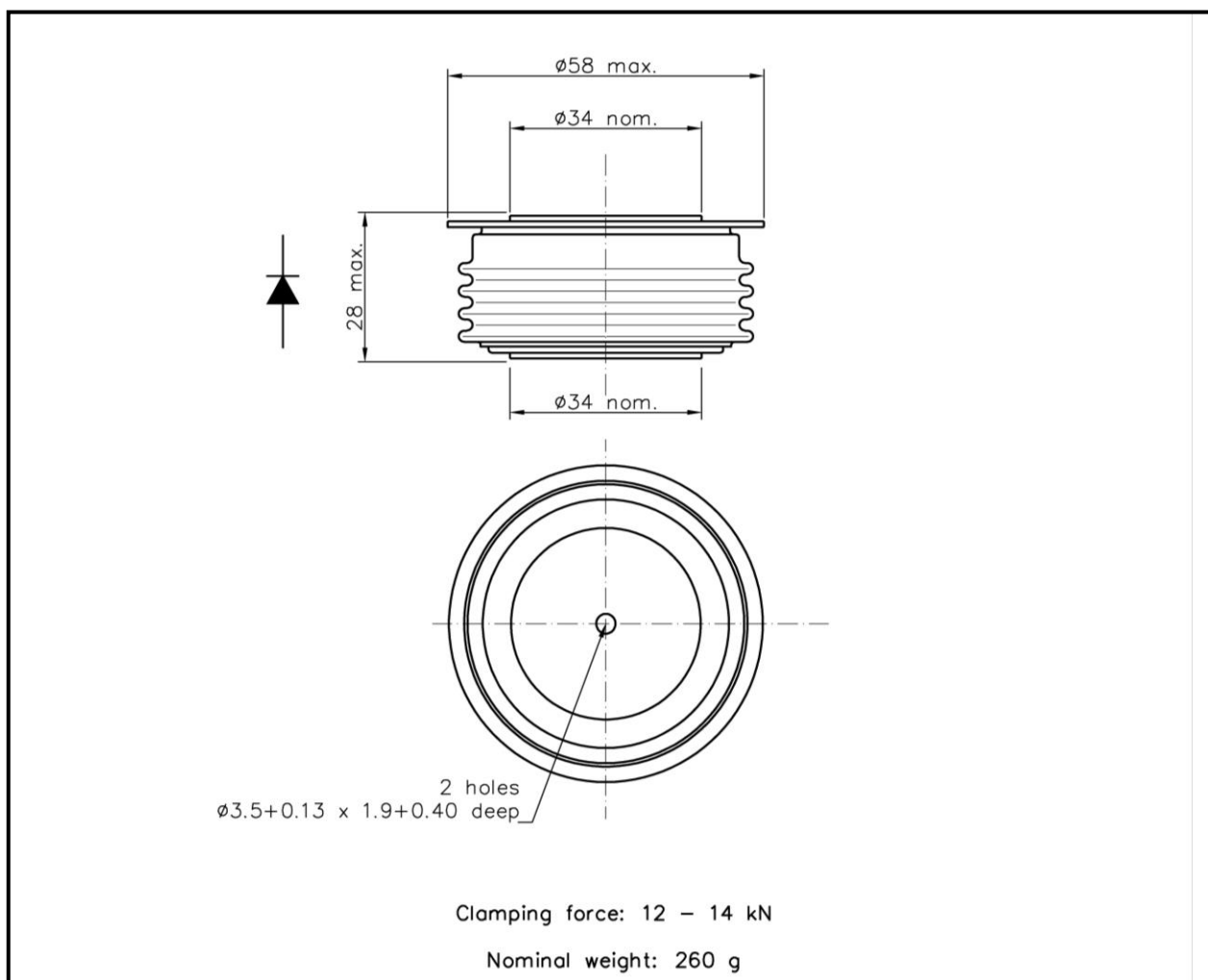
## Diode

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### Mechanical properties

Parameter		Unit	Value
Clamping force	$F_M$	kN	12,0 ... 14,0
Weight	m	g	260

### Package details



For further package information, please contact Sales & Marketing Department. All dimensions in mm, unless stated otherwise.

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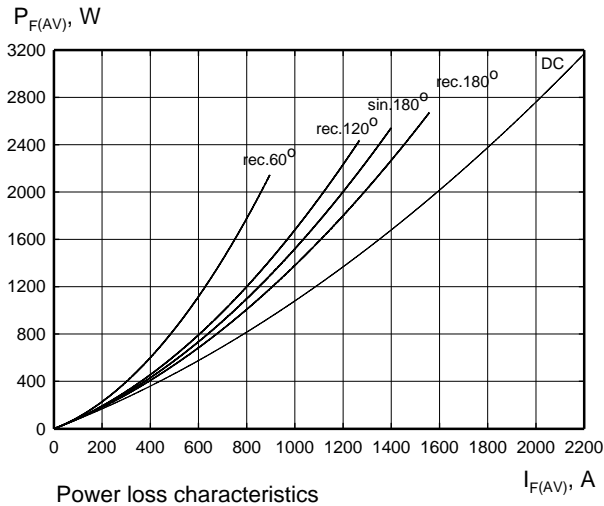
# D83-1400

## Diode

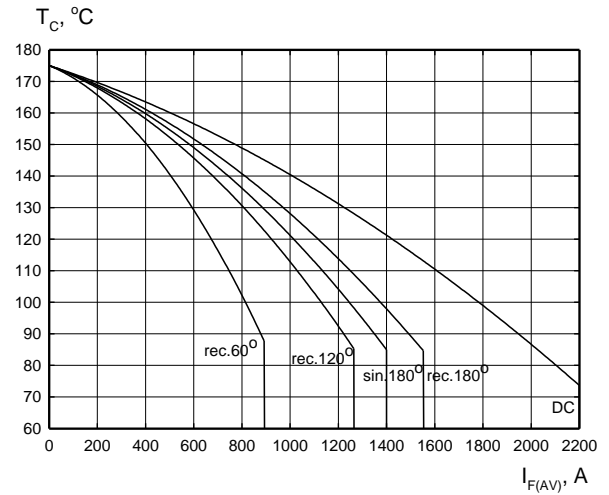
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Do not scale.

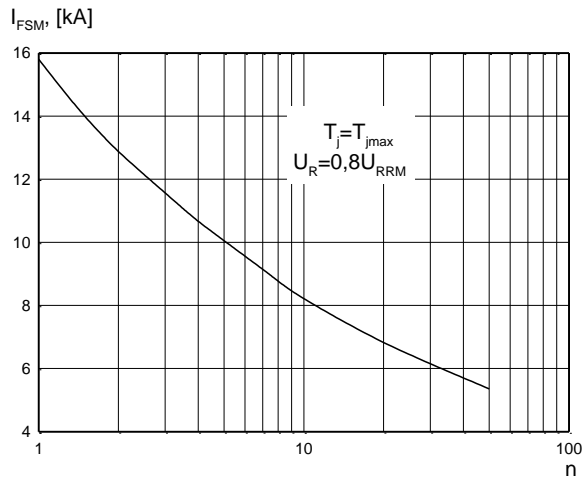
### CHARACTERISTICS



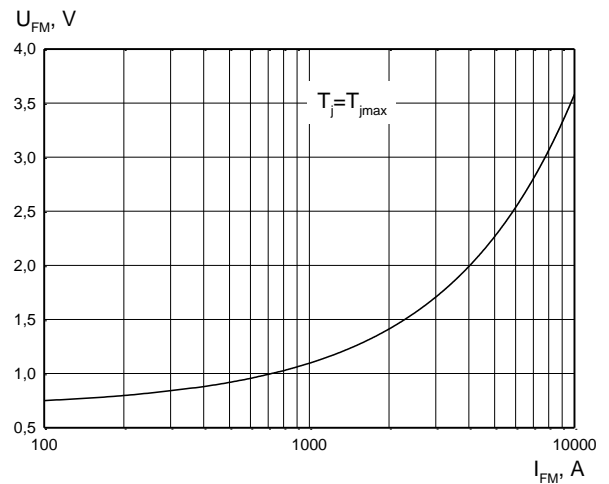
Power loss characteristics



Case temperature ratings



Non-repetitive surge current rating



Forward characteristic

Zakłady Elektronowe LAMINA S.A.  
Puławska 34  
PL-05-500 Piaseczno  
POLAND

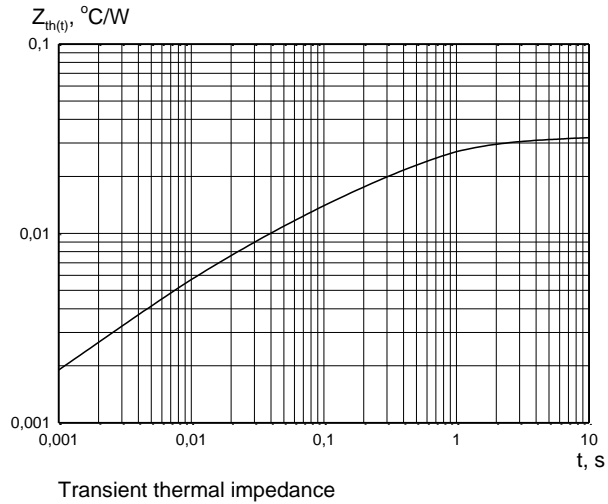
Tel.: +48-22-7572731  
Tel.: +48-22-3989409  
Fax.: +48-22-3989407  
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## Diode

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## HEATSINKS

LAMINA S.I. has its own proprietary range of extruded aluminium heatsinks designed to optimise the performance of our semiconductors with natural and forced air flow. High efficiency water cooled copper heatsinks are also available.

## DEVICE CLAMPS

Disc devices require the correct clamping force to ensure their best operation. LAMINA S.I. offers a wide selection of clamps to suit all of our manufactured devices.

## POWER ASSEMBLY CAPABILITY

LAMINA S.I. provides a support for those customers requiring more than a basic semiconductor and offers precisely assembled Power Blocks according to factory or customer standards.