Zakłady Elektronowe
LAMINA S.A.

R52-100
Fast Recovery Diode

KKR52100, February 2003 version

Diodes type R52 are of modern design with internal spring loaded contacts and pressure welded glass-to-metal seal. Designed for use in power electronic circuits and equipment under normal operating conditions.

KEY PARAMETERS

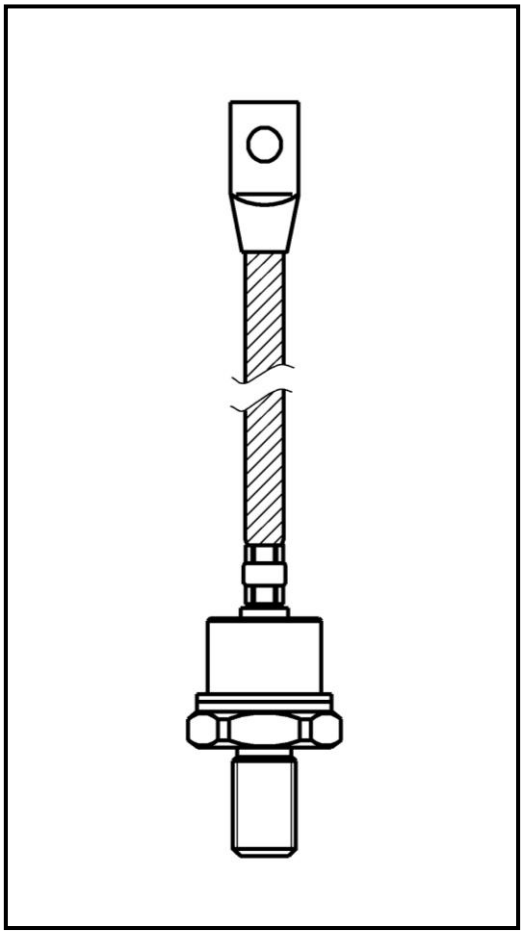
U_{RRM}	up to	1400 V
$I_{F(AV)}$		100 A
I_{FSM}		2200 A
t_{rr}	down to	1µs

FEATURES

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

APPLICATION

- Free Wheeling Diode
- Resistance Welding
- Fast recovery rectifier applications



Outline type code: JEDEC DO-205AC

See package details for further information

Designed for use in high power industrial and commercial rectifying circuits where high currents are encountered and high reliability is essential.

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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.

R52-100-□□

voltage class (hundreds of volts)

ELECTRICAL PARAMETERS

Voltage ratings

Voltage class	U_{RRM}	U_{RSM}	I_{RRM}
	V	V	mA
04	400	500	30
06	600	700	
08	800	900	
10	1000	1100	
12	1200	1300	
14	1400	1500	

Recovery time codes

t_{rr} code	5	6	7
t_{rr} [µs]	2,0	1,6	1,0

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Electrical properties

Parameter		Unit	Test conditions	Value
Average forward current @ case temperature	$I_{F(AV)}$	A		100
	T_c	°C		75
RMS forward current	$I_{F(RMS)}$	A		157
Surge current	I_{FSM}	A	T_j=$T_j$max, U_R=0,8U_{RRM}, t_p=10ms	2200
I^2t – value	I^2t	kA^2s		24
Forward voltage drop max.	U_{FM}	V	T_j=25°C, I_{FM}=314A	1,90
Treshold voltage	$U_{F(T0)}$	V		1,31
Slope resistance	r_F	mΩ		1,90
Reverse recovery time	t_{rr}	µs	T_j=25°C, I_{FM}=100A, di_R/dt=12,5A/ µs	1,0 ... 2,0
Typical recovered charge	Q_r	µC	T_j=25°C, I_{FM}=100A, di_R/dt=12,5A/ µs	20

Termal properties

Parameter		Unit	Test conditions	Value
Thermal resistance, junction to case	R_{thJC}	°C/W	DC	0,25
Thermal resistance, case to heatsink	R_{thCS}	°C/W		0,12
Operating junction temperature	T_{jmin}...T_{jmax}	°C		125
Storage temperature	T_{stg}	°C		-40...+150

Mechanical properties

Parameter		Unit	Value
Mounting torque	M	Nm	14 ... 17
Weight	m	g	130

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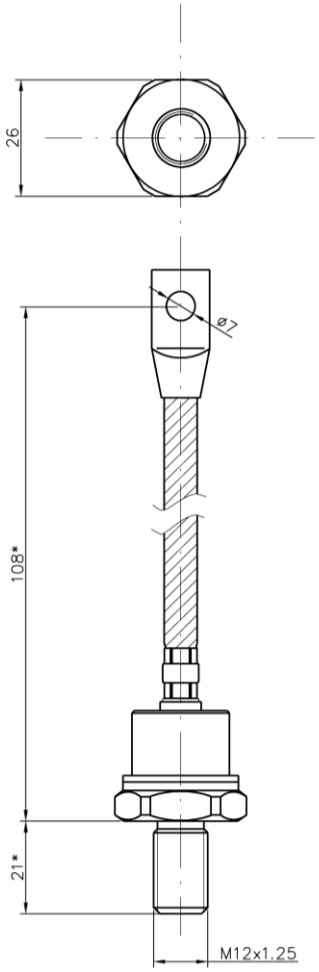
Package details



Lead lenght measured from hex bottom to eye center.
Custom lenght available.
Different thread sizes and stud lenghts available.

Weight 130 g

For further package information, please contact Sales & Marketing Department. All dimensions in mm, unless stated otherwise.
Do not scale.

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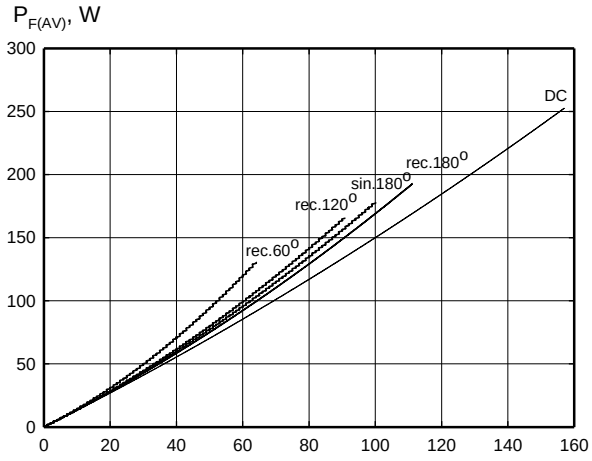
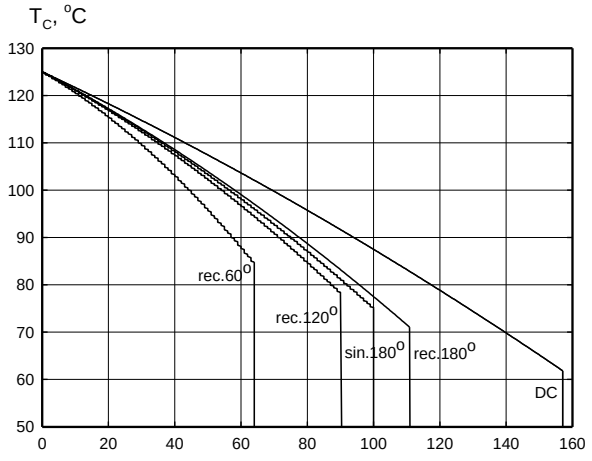
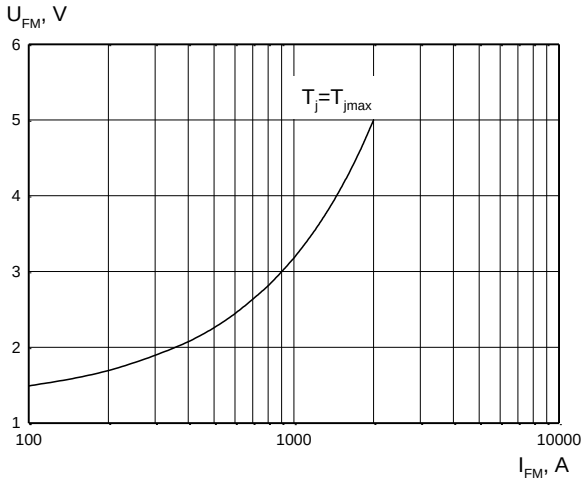
CHARACTERISTICS



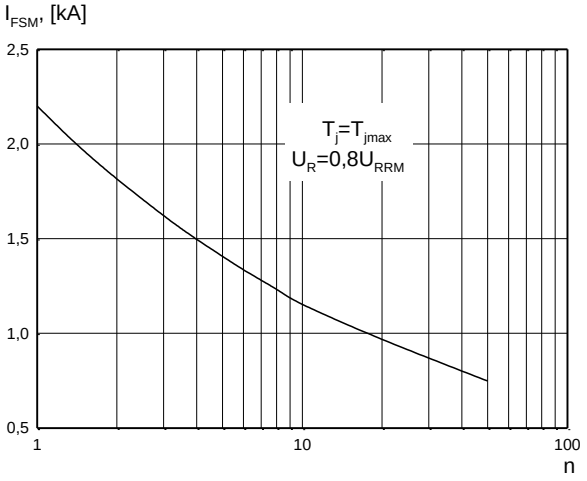
Power loss characteristics



Case temperature ratings



Forward characteristic



Non-repetitive surge current rating

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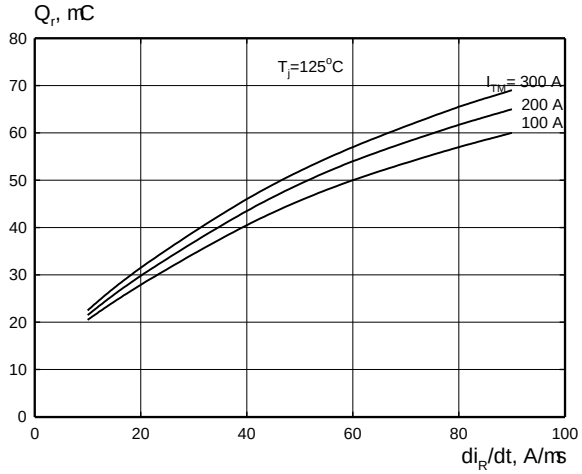
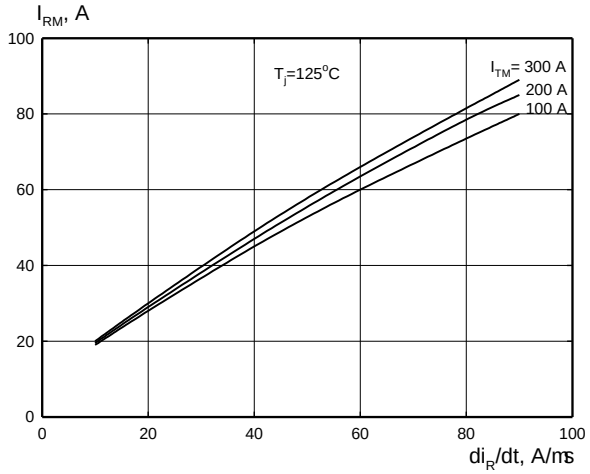


Reverse charge characteristics; t_{rr} group: "6"



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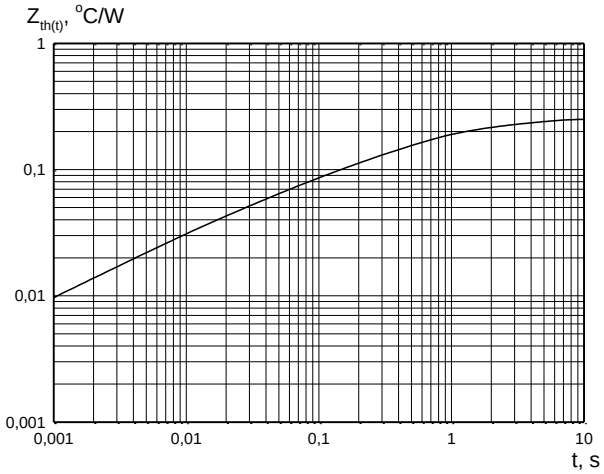

Transient thermal impedance

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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.

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.

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