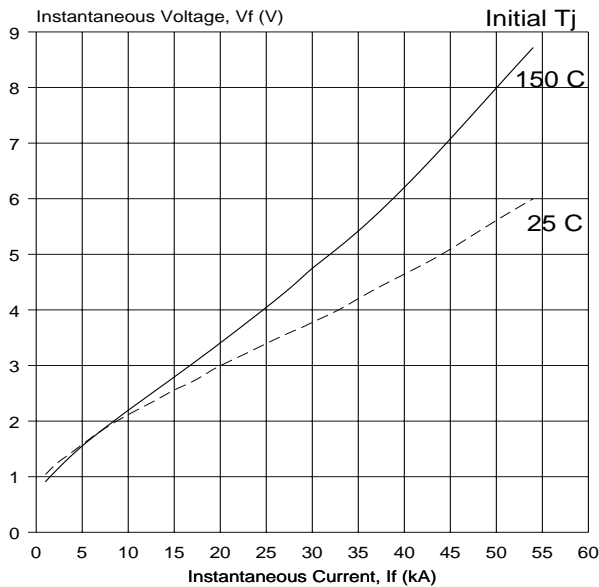


The SDD303 rectifier diode features a nominal 100mm diameter silicon junction design, manufactured by the proven multi-diffusion process.

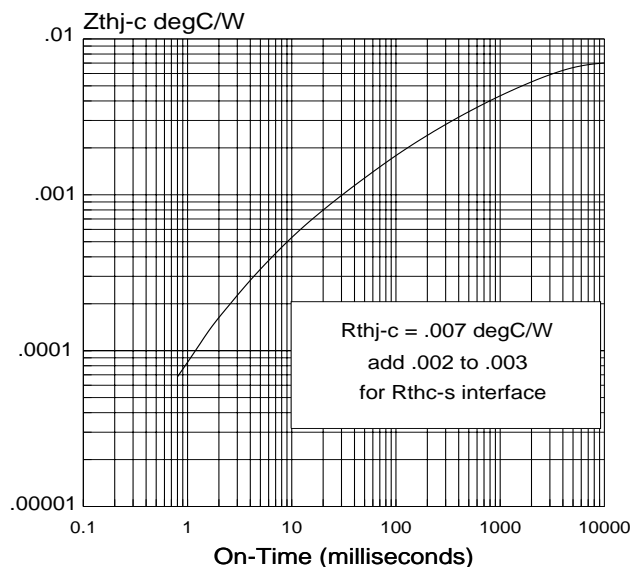
SDD303 is designed specifically for high current surges as appropriate for pulse power applications.

EI-CHARACTERISTICS
Process Maximum



89A:

THERMAL IMPEDANCE vs. TIME
Junction to Case (DC)



89a:

PRINCIPAL LIMITS AND RATINGS

Operating Temperature Range

-40°C to +150°C

Rep. Peak Reverse Voltage & Current

V_{RRM} = 6000 V ; I_{RRM} = 100 mA

Non Repetitive Peak Surge Current

I_{FSM} (8.3 ms, V_R = 0) = 60000 A

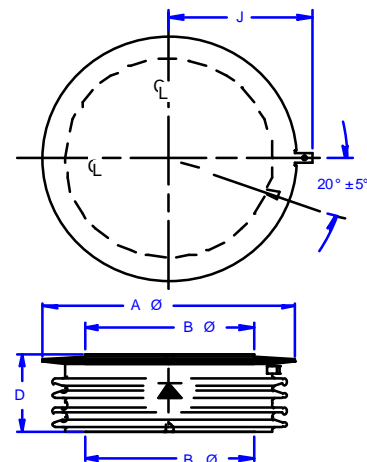
Maximum Peak Recovery Current

I_{RM} (150°C, 140A/us) = 1900 A
(RC snubber required)

Maximum Average Current

I_{F(AV)} = 3500A @T_{case} = 100°C

MECHANICAL OUTLINE



AF = 5.65 in (143.5 mm)

BF = 3.92 in (99.4 mm)

D = 1.45 in (36.8 mm)

ELECTRICAL CREEPAGE

1.6 / 1.0 in

40.6 / 25.4 mm

CLAMPING FORCE REQUIRED

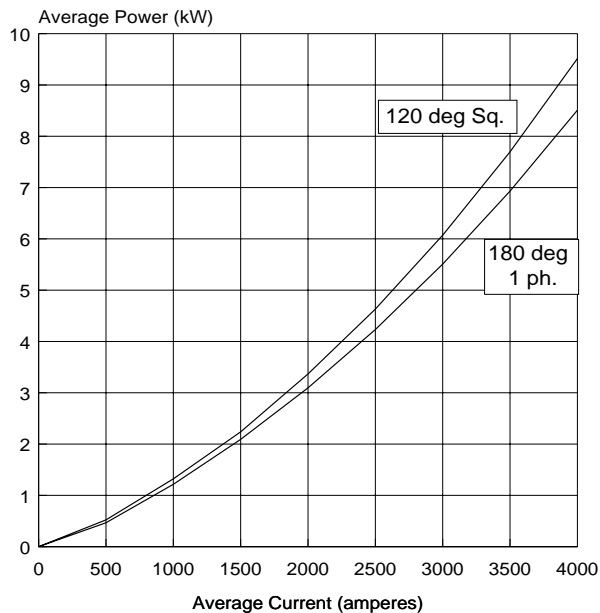
17000 - 19000 lb.

75 - 85 kN

LIMITING CHARACTERISTICS AND RATINGS

<u>PARAMETER</u>	<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MAX. VALUES</u>	<u>UNITS</u>
Average current	I_{AV}	half sine $T_c=100^\circ\text{C}$	3500	A
Repetitive peak reverse voltage	V_{RRM}	$T_j = 0$ to $+150^\circ\text{C}$ 50/60 Hz	6000	V
Repetitive peak reverse current	I_{RRM}	$T_j=150^\circ$ 25°	100 15	ma
Forward voltage	V_{FM}	2kA , 25°C 22kA , 150°C 8ms pulse	1.20 3.75	V
Non-rep peak surge current	I_{FSM}	$T_j=150^\circ$ $t_p=8.3\text{ms}$ $t_p=10\text{ms}$	60 55	kA
Peak recovery current	I_{RM}	5500A pulse (snubber, 2.3uF/2 ohms) 80A/us $T_j=150^\circ\text{C}$ snappiness "S" approx.= 1	1385A	

Full Cycle Average Power Dissipation
@ $T_j = 150 \text{ degC}$



AVERAGE POWER DISSIPATION

@ $T_j = 150 \text{ }^\circ\text{C}$

I_{AVG} (A)	120° sq. wave	half sine
500	523	466
1000	1322	1215
1500	2268	2092
2000	3367	3096
2500	4632	4232
3000	6071	5508
3500	7696	6931
4000	9514	8508