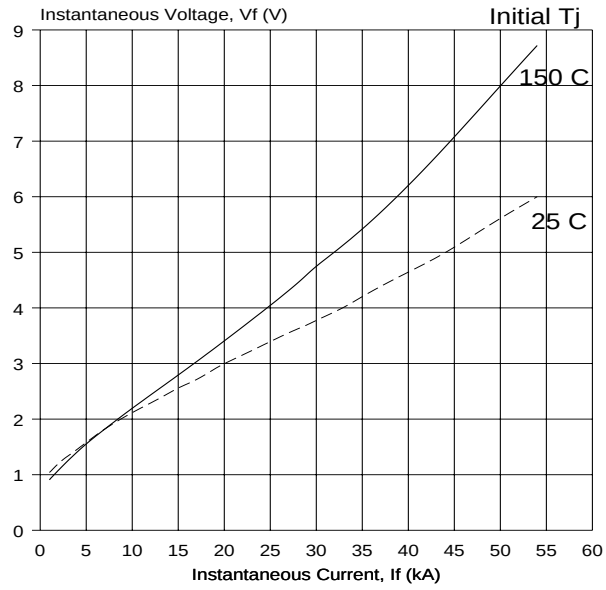
SDD303KT
100mm RECTIFIER DIODE
6000 Volts / 3500 Amp

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



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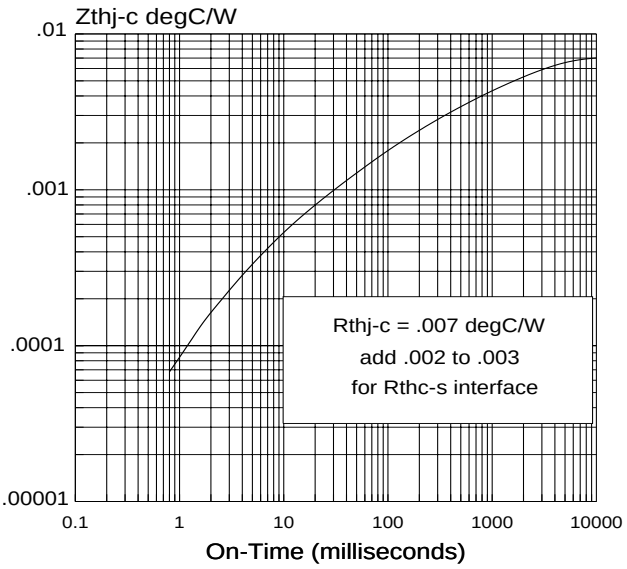
THERMAL IMPEDANCE vs. TIME
Junction to Case (DC)



PRINCIPAL LIMITS AND RATINGS

Operating Temperature Range
-40°C to +150°C

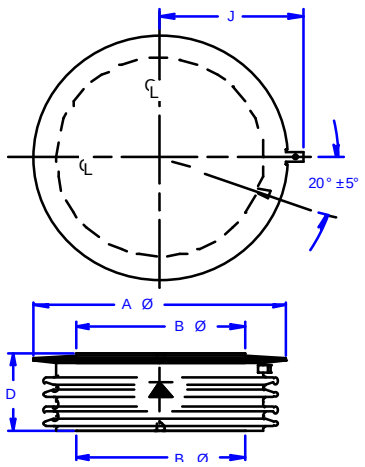
Rep.Peak Reverse Voltage & Current
V_{RRM} = 6000 V ; I_{RRM}=100 mA

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

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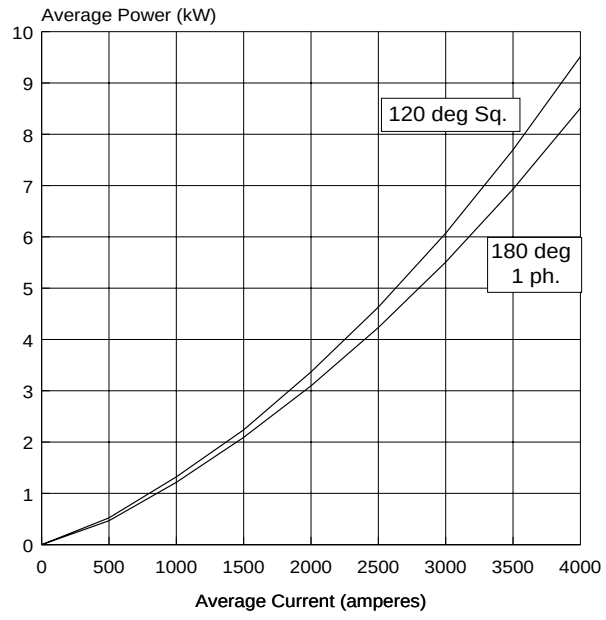
175 Great Valley Pkwy. Malvern, PA 19355
USA

REV C 8/10/2001

LIMITING CHARACTERISTICS AND RATINGS

PARAMETER	SYMBOL	TEST CONDITIONS	MAX. VALUES	UNITS
Average current	I_{AV}	half sine T_C=100°C	3500	A
Repetitive peak reverse voltage	V_{RRM}	T_J = 0 to +150°C 50/60 Hz	6000	V
Repetitve peak reverse current	I_{RRM}	T_J=150° 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° t_p=8.3ms t_p=10ms	 60 55	 kA
Peak recovery current	I_{RM}	5500A pulse (snubber, 2.3uF/2 ohms) 80A/us 1385A Tj=150°C snappiness "S" approx.= 1		

Full Cycle Average Power Dissipation
@ Tj = 150 degC



AVERAGE POWER DISSIPATION

@ Tj = 150 °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

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