AEGIS
SEMICONDUTORES LTDA.

A1A:460.XX

VOLTAGE RATINGS

Part Number	V_{RRM} , V_R – (V) Max. rep. peak reverse voltage		V_{RSM} , V_R – (V) Max. non-rep. peak reverse voltage
	T_J = 0 to 180°C	T_J = -40 to 0°C	T_J = 25 to 180°C
A1A:460.02	200	200	300
A1A:460.04	400	400	500
A1A:460.06	600	600	700
A1A:460.08	800	800	900
A1A:460.10	1000	1000	1100
A1A:460.12	1200	1200	1300
A1A:460.14	1400	1400	1500
A1A:460.16	1600	1600	1700

This datasheet applies to:

Metric thread: A1A:460.XX, A1B:460.XX

Inch thread: A2A:460.XX, A2B:460.XX

MAXIMUM ALLOWABLE RATINGS

PARAMETER		VALUE	UNITS	NOTES
T_J Junction Temperature		-40 to 180	°C	-
T_{stg} Storage Temperature		-40 to 180	°C	-
$I_{F(AV)}$	Max. Av. current	460	A	180° half sine wave
	@ Max. T_C	125	°C	
$I_{F(RMS)}$ Nom. RMS current		940	A	-
I_{FSM} Max. Peak non-rep. surge current		10900	A	50 Hz half cycle sine wave; Initial T_J = 180°C, rated V_{RRM} applied after surge.
		11450		60 Hz half cycle sine wave; Initial T_J = 180°C, rated V_{RRM} applied after surge.
		13000		50 Hz half cycle sine wave; Initial T_J = 180°C, no voltage applied after surge.
		13600		60 Hz half cycle sine wave; Initial T_J = 180°C, no voltage applied after surge.
I^2t Max. I^2t capability		598	kA^2s	t = 10ms; Initial T_J = 180°C, rated V_{RRM} applied after surge.
		546		t = 8.3 ms; Initial T_J = 180°C, rated V_{RRM} applied after surge.
		845		t = 10ms; Initial T_J = 180°C, no voltage applied after surge.
		772		t = 8.3 ms; Initial T_J = 180°C, no voltage applied after surge.
$I^2t^{1/2}$ Max. $I^2t^{1/2}$ capability		8450	$kA^2s^{1/2}$	Initial T_J = 180°C, no voltage applied after surge. I^2t for time $t_x = I^2t^{1/2} * t_x^{1/2}$. (0.1 < tx < 10ms).
F Mounting Force		60(534)	N.m(Lbf.in)	-

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CHARACTERISTICS

PARAMETER	MIN.	TYP.	MAX.	UNITS	TEST CONDITIONS
V_{FM} Peak forward voltage	---	---	1.42	V	Initial T_J = 25°C, 50-60Hz half sine, I_{peak} = 1445A.
$V_{F(TO)1}$ Low-level threshold	---	---	0.78	V	T_J = 180°C
$V_{F(TO)2}$ High-level threshold	---	---	0.87		Av. power = $V_{F(TO)} * I_{F(AV)} + r_F * [I_{F(RMS)}]^2$
r_{F1} Low-level resistance	---	---	0.35	mΩ	Use low values for $I_{FM} < \pi I_{F(AV)}$
r_{F2} High-level resistance	---	---	0.31		
I_{RM} Peak reverse current	---	---	40	mA	T_J = 180°C. Max. rated V_{RRM}
R_{thJC} Thermal resistance, junction-to-case	---	---	0.15	°C/W	DC operation
	---	---	0.17	°C/W	180° sine wave
	---	---	0.19	°C/W	120° rectangular wave
R_{thCS} Thermal resistance, case-to-sink	---	---	0.015	°C/W	Mtg. Surface smooth, flat and greased. Single side.
wt Weight	---	500(17.5)	---	g(oz.)	---
Case Style	DO-205AD(DO-13)				---

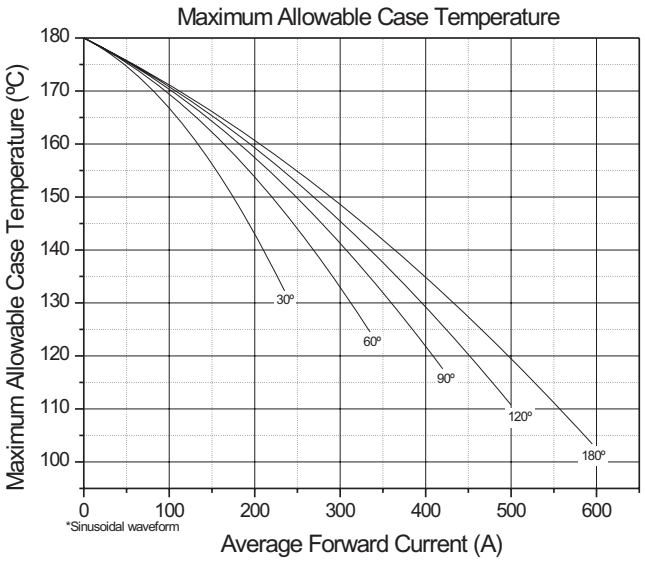

Fig. 1 - Current Ratings Characteristics

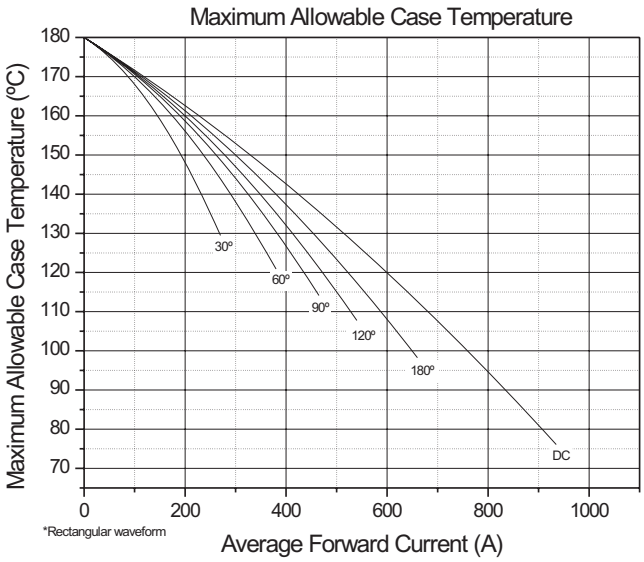

Fig. 2 - Current Ratings Characteristics

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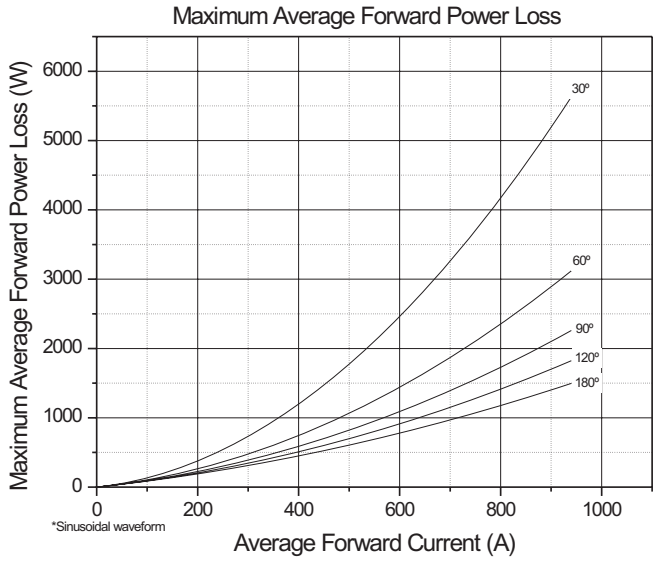

Fig. 3 - On-State Power Loss Characteristics

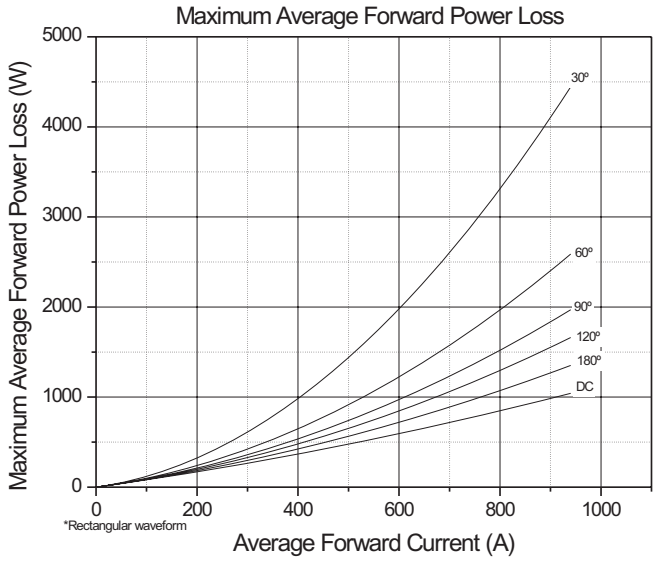

Fig. 4 - On-State Power Loss Characteristics

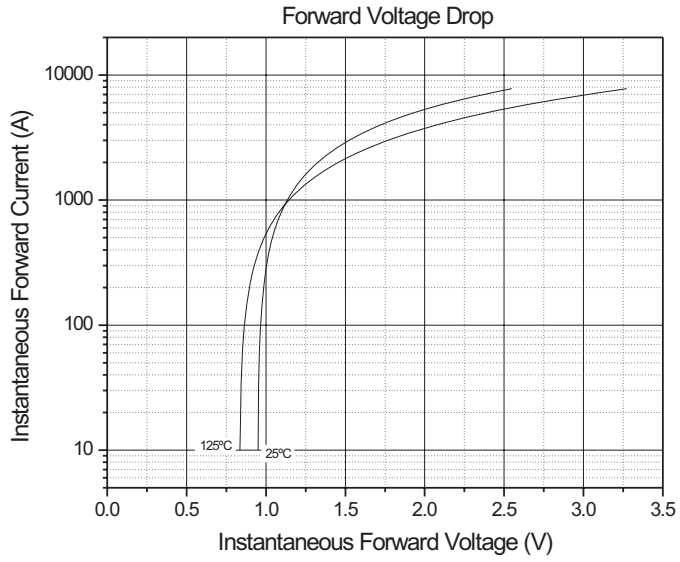

Fig. 5 - Forward Voltage Drop Characteristics

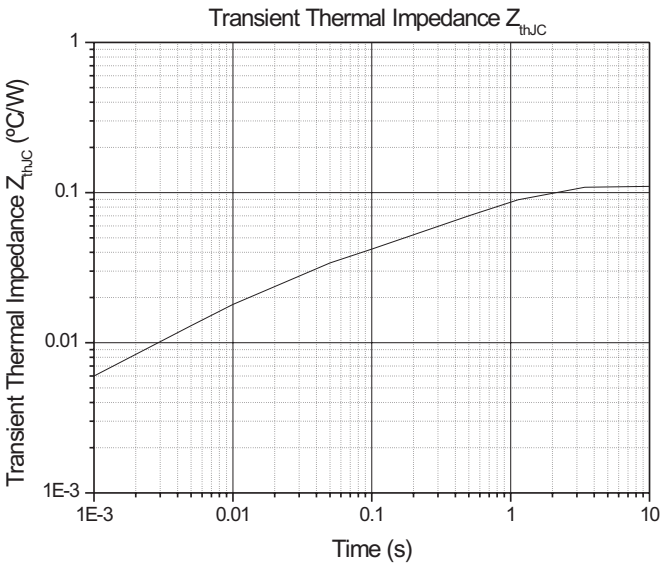

Fig. 6 - Transient Thermal Impedance Characteristics

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DO-205AD (DO-13)

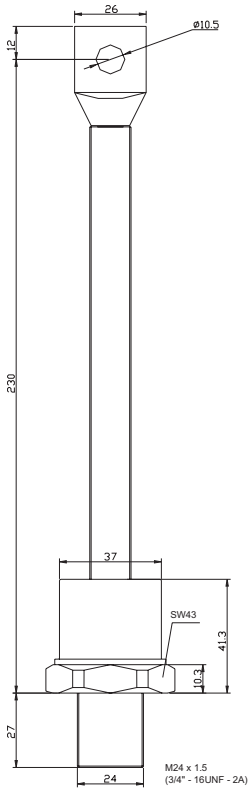

Fig. 7 - Outline Characteristics