



A5A:1500.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 175°C	$T_J = -40$ to 0°C	
A5A:1500.14	1400	1400	$T_J = 25$ to 175°C 1500
A5A:1500.16	1600	1520	1700
A5A:1500.18	1800	1710	1900
A5A:1500.20	2000	1900	2100
A5A:1500.22	2200	2090	2300

MAXIMUM ALLOWABLE RATINGS

PARAMETER	VALUE	UNITS	NOTES
T_J Junction Temperature	-40 to 175	$^\circ\text{C}$	-
T_{stg} Storage Temperature	-40 to 175	$^\circ\text{C}$	-
$I_{F(AV)}$ Max. Av. current @ Max. T_C	1280	A	180 half sine wave
	125	$^\circ\text{C}$	
$I_{F(RMS)}$ Nom. RMS current	2370	A	-
I_{FSM} Max. Peak non-rep. surge current	15.8	kA	50 Hz half cycle sine wave Initial $T_J = 175^\circ\text{C}$, rated V_{RRM} applied after surge.
	16.5		60 Hz half cycle sine wave
	18.7		50 Hz half cycle sine wave Initial $T_J = 175^\circ\text{C}$, no voltage applied after surge.
	19.6		60 Hz half cycle sine wave
I^2t Max. I^2t capability	1240	kA^2s	$t = 10\text{ms}$ Initial $T_J = 175^\circ\text{C}$, rated V_{RRM} applied after surge.
	1130		$t = 8.3\text{ms}$
	1750		$t = 10\text{ms}$ Initial $T_J = 175^\circ\text{C}$, no voltage applied after surge.
	1600		$t = 8.3\text{ms}$
$I^2t^{1/2}$ Max. $I^2t^{1/2}$ capability	17500	$\text{kA}^2\text{s}^{1/2}$	Initial $T_J = 175^\circ\text{C}$, no voltage applied after surge. I^2t for time $t_x = I^2t^{1/2} * t_x^{1/2}$. ($0.1 < t_x < 10\text{ms}$).
F Mounting Force	1550	N.m	-



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CHARACTERISTICS

PARAMETER	MIN.	TYP.	MAX.	UNITS	TEST CONDITIONS
V _{FM} Peak forward voltage	---	1.65	1.87	V	Initial T _J = 25 °C, 50-60Hz half sine, I _{peak} = 4021A.
V _{F(TO)1} Low-level threshold	---	---	0.79	V	T _J = 175 °C
V _{F(TO)2} High-level threshold	---	---	0.807		Av. power = V _{F(TO)} * I _{F(AV)} + r _F * [I _{F(RMS)}] ²
r _{F1} Low-level resistance	---	---	0.262	m	Use low values for I _{FM} < I _{F(AV)}
r _{F2} High-level resistance	---	---	0.241		
I _{RM} Peak reverse current	---	30	60	mA	T _J = 175 °C. Max. rated V _{RRM}
R _{thJC} Thermal resistance, junction-to-case	---	---	0.035	°C/W	DC operation, double side
	---	---	0.039	°C/W	180° sine wave, double side
	---	---	0.040	°C/W	120° rectangular wave, double side
R _{thCS} Thermal resistance, case-to-sink	---	---	0.030	°C/W	Mtg. Surface smooth, flat and greased. Single side. For double side, divide value by 2.
wt Weight	---	255(9)	---	g(oz.)	---
Case Style	TO-200AC				---

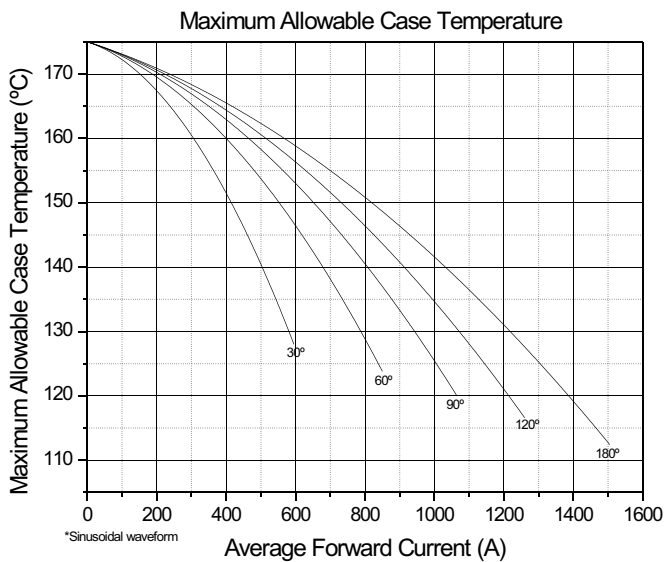


Fig. 1 - Current Ratings Characteristics

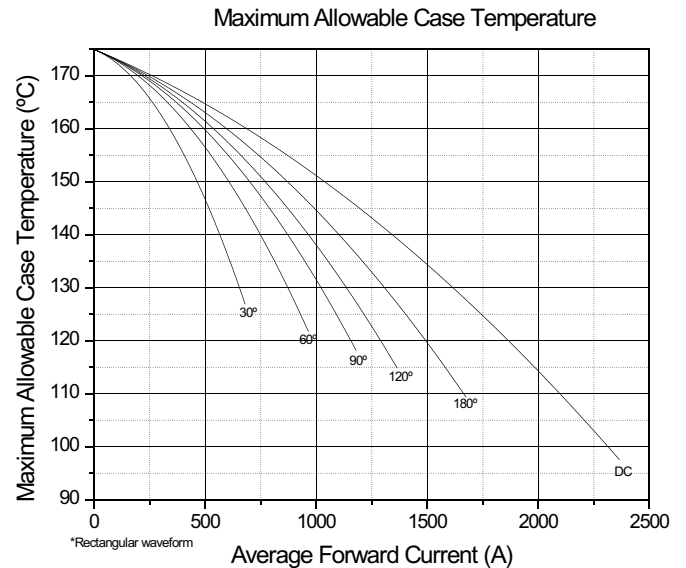


Fig. 2 - Current Ratings Characteristics



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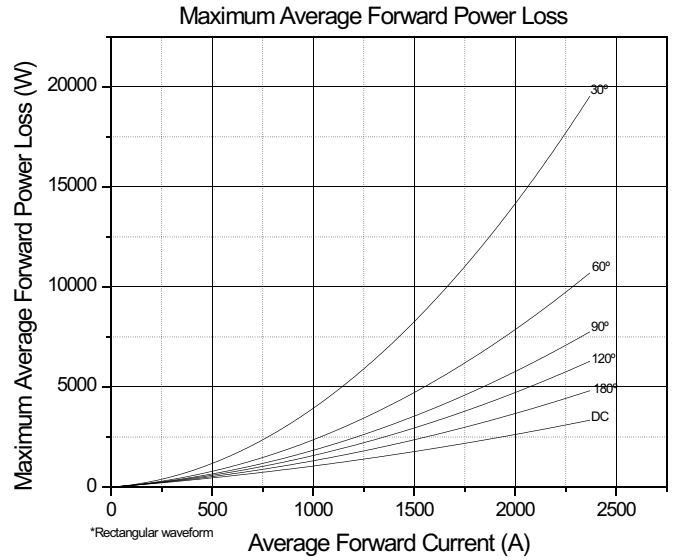


Fig. 3 - On-State Power Loss Characteristics

Fig. 4 - On-State Power Loss Characteristics

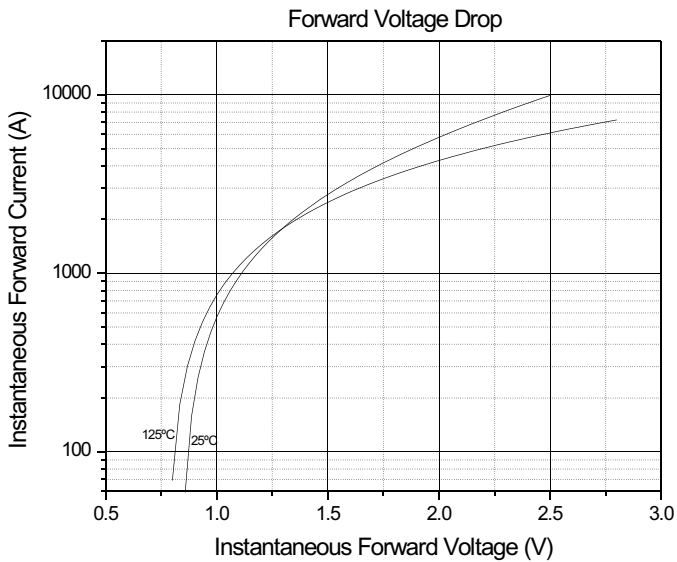


Fig. 5 - Forward Voltage Drop Characteristics

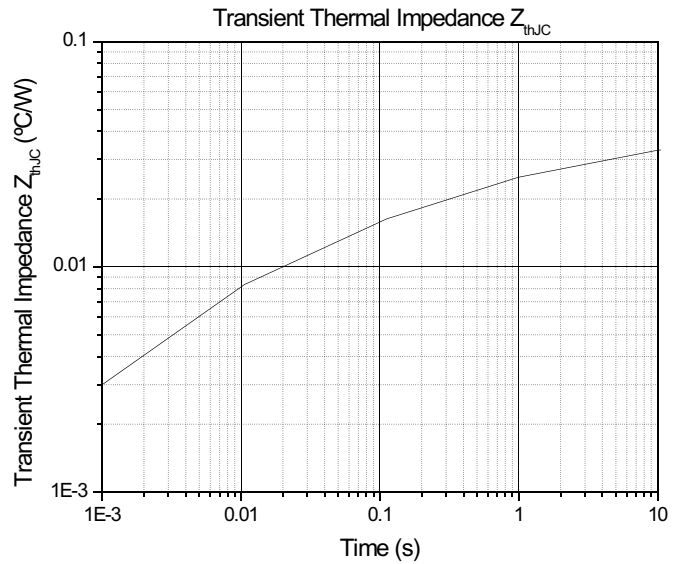


Fig. 6 - Transient Thermal Impedance Characteristics



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TO-200AC

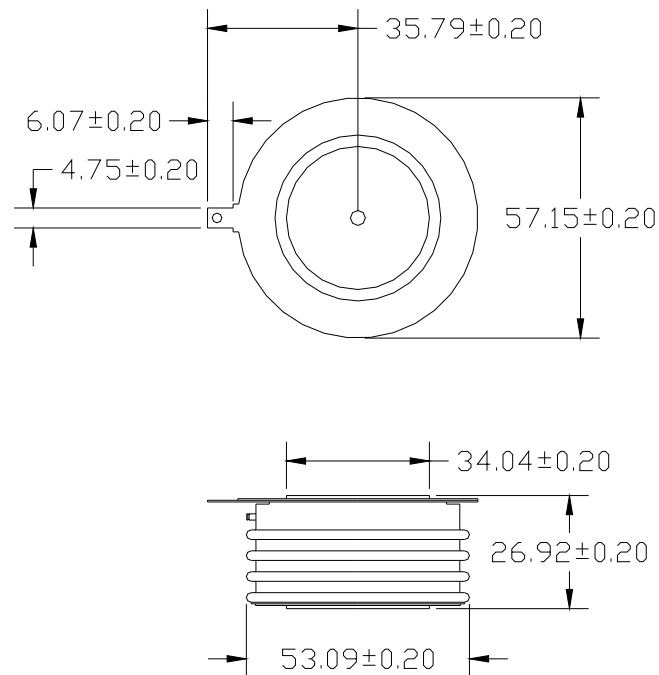


Fig. 7 - Outline Characteristics