



## A5A:870.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 $175^\circ\text{C}$	$T_J = -40$ to $0^\circ\text{C}$	$T_J = 25$ to $175^\circ\text{C}$
	A5A:870.24	2400	2400
A5A:870.26	2600	2600	2700
A5A:870.28	2800	2800	2900
A5A:870.30	3000	2900	3100

### 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. $T_C$	675	A	180° half sine wave
	125	$^\circ\text{C}$	
$I_{F(RMS)}$ Nom. RMS current	1350	A	-
$I_{FSM}$ Max. Peak non-rep. surge current	10.70	kA	50 Hz half cycle sine wave Initial $T_J = 175^\circ\text{C}$ , rated $V_{RRM}$ applied after surge.
	11.67		60 Hz half cycle sine wave
	12.75		50 Hz half cycle sine wave Initial $T_J = 175^\circ\text{C}$ , no voltage applied after surge.
	13.90		60 Hz half cycle sine wave
$I^2t$ Max. $I^2t$ capability	523	$\text{kA}^2\text{s}$	$t = 10\text{ms}$ Initial $T_J = 175^\circ\text{C}$ , rated $V_{RRM}$ applied after surge.
	570		$t = 8.3\text{ms}$
	739		$t = 10\text{ms}$ Initial $T_J = 175^\circ\text{C}$ , no voltage applied after surge.
	806		$t = 8.3\text{ms}$
$I^{2,1/2}$ Max. $I^{2,1/2}$ capability	8830	$\text{kA}^2\text{s}^{1/2}$	Initial $T_J = 175^\circ\text{C}$ , no voltage applied after surge. $I^2t$ for time $t_x = I^{2,1/2} * t_x^{1/2}$ . ( $0.1 < t_x < 10\text{ms}$ ).
F Mounting Force	900	N.m	-



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## CHARACTERISTICS

PARAMETER	MIN.	TYP.	MAX.	UNITS	TEST CONDITIONS
V <sub>FM</sub> Peak forward voltage	---	1.75	1.94	V	Initial T <sub>J</sub> = 25°C, 50-60Hz half sine, I <sub>peak</sub> = 2121A.
V <sub>F(TO)1</sub> Low-level threshold	---	---	0.85	V	T <sub>J</sub> = 175°C
V <sub>F(TO)2</sub> High-level threshold	---	---	0.864		Av. power = V <sub>F(TO)</sub> * I <sub>F(AV)</sub> + r <sub>F</sub> * [I <sub>F(RMS)</sub> ] <sup>2</sup>
r <sub>F1</sub> Low-level resistance	---	---	0.54	m	Use low values for I <sub>FM</sub> < I <sub>F(AV)</sub>
r <sub>F2</sub> High-level resistance	---	---	0.658		
I <sub>RM</sub> Peak reverse current	---	15	50	mA	T <sub>J</sub> = 175°C. Max. Rated VRRM
R <sub>thJC</sub> Thermal resistance, junction-to-case	---	---	0.038	°C/W	DC operation, double side
	---	---	0.045	°C/W	180° sine wave, double side
	---	---	0.046	°C/W	120° rectangular wave, duble side
R <sub>thCS</sub> Thermal resistance, case-to-sink	---	---	0.02	°C/W	Mtg. Surface smooth, flat and greased. Double side.
wt Weight	---	85(3.0)	---	g(oz.)	---
Case Style	TO-200AB			JEDEC	---

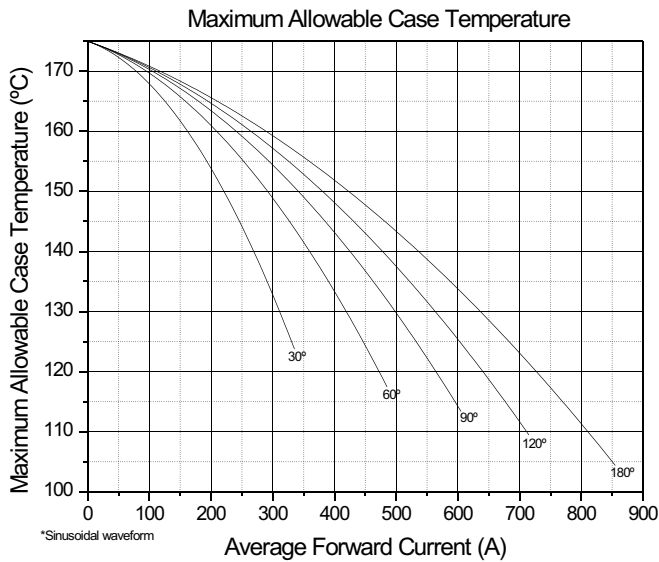


Fig. 1 - Current Ratings Characteristics

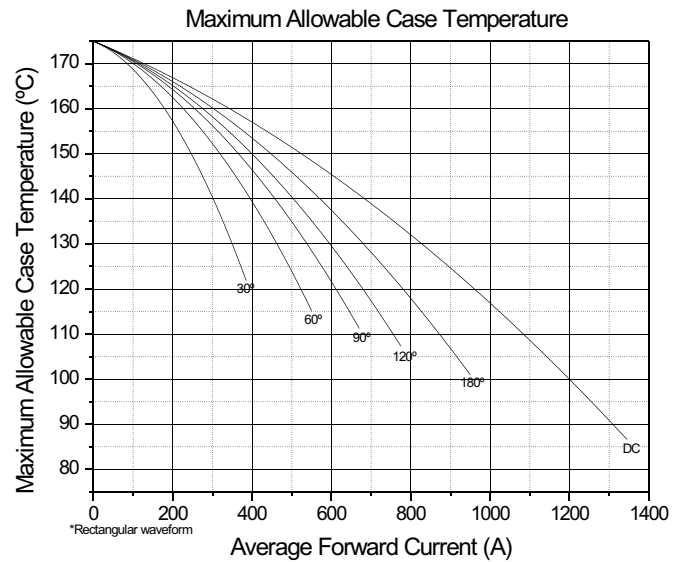


Fig. 2 - Current Ratings Characteristics



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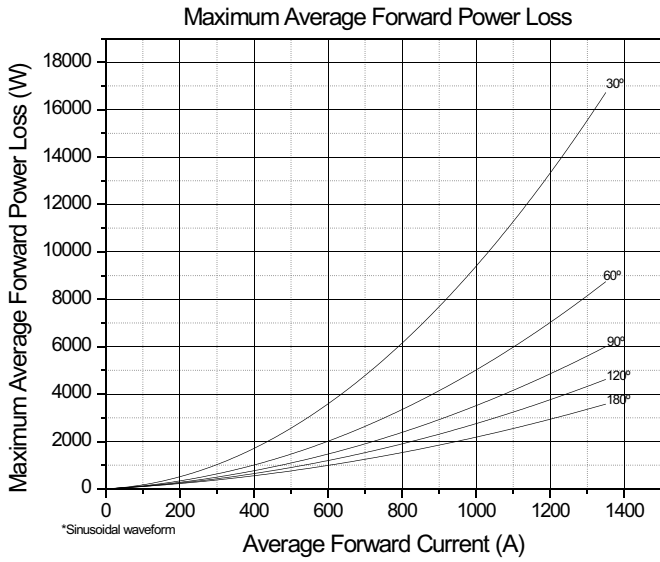


Fig. 3 - On-State Power Loss Characteristics

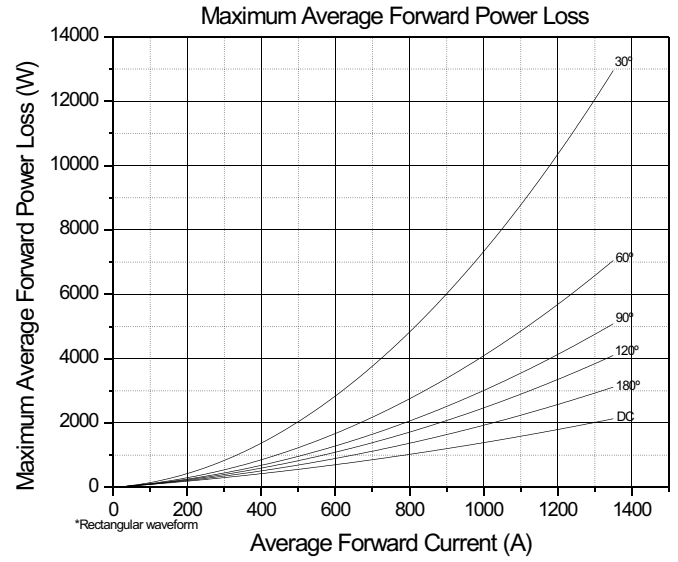


Fig. 4 - On-State Power Loss Characteristics

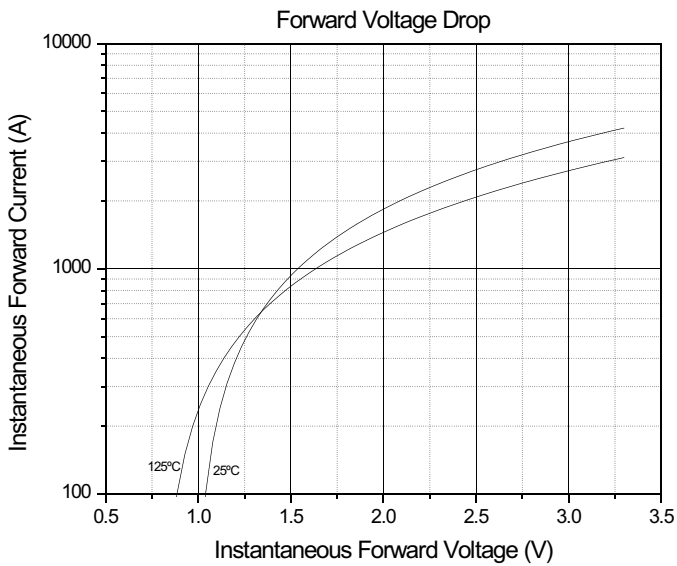


Fig. 5 - Forward Voltage Drop Characteristics

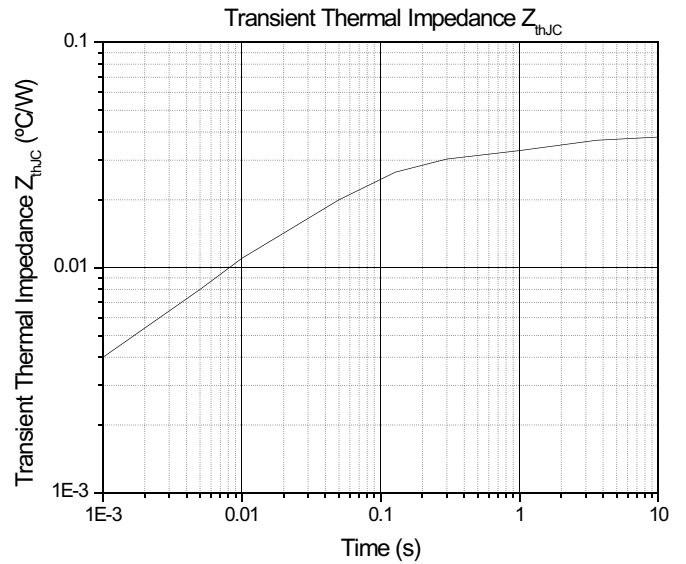
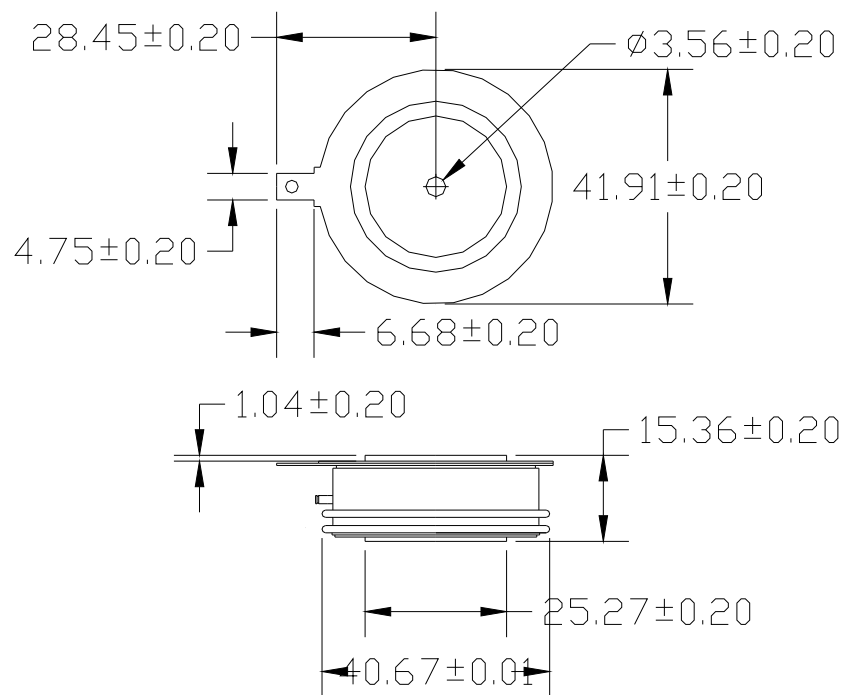


Fig. 6 - Transient Thermal Impedance Characteristics



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### TO-200AB



**Fig. 7 - Outline Characteristics**