



## A1A:405.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 $200^\circ\text{C}$	$T_J = -40$ to $0^\circ\text{C}$	$T_J = 25$ to $200^\circ\text{C}$
A1A:405.02	200	200	300
A1A:405.04	400	400	500
A1A:405.06	600	600	700
A1A:405.08	800	800	900

This datasheet applies to:

**Metric thread: A1A:405.XX,  
A1B:405.XX**

**Inch thread: A2A:405.XX,  
A2B:405.XX**

### MAXIMUM ALLOWABLE RATINGS

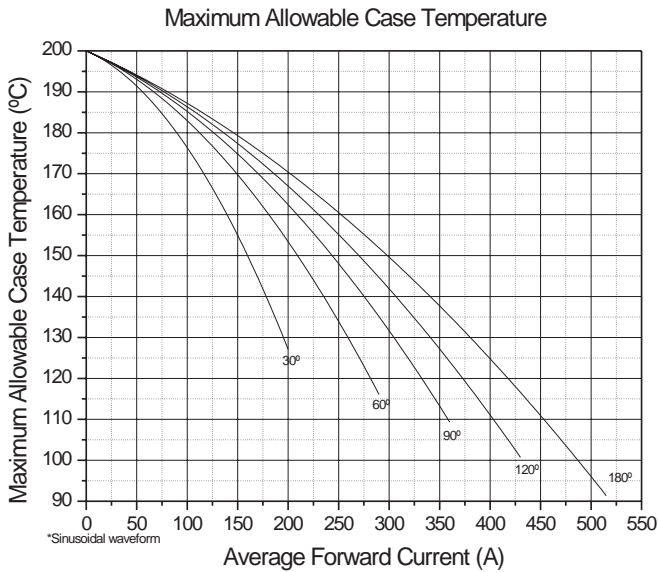
PARAMETER	VALUE	UNITS	NOTES
$T_J$ Junction Temperature	-40 to 200	$^\circ\text{C}$	-
$T_{stg}$ Storage Temperature	-40 to 200	$^\circ\text{C}$	-
$I_{F(AV)}$ Max. Av. current @ Max. $T_C$	405	A	180° half sine wave
	125	$^\circ\text{C}$	
$I_{F(RMS)}$ Nom. RMS current	810	A	-
$I_{FSM}$ Max. Peak non-rep. surge current	9358	A	50 Hz half cycle sine wave Initial $T_J = 200^\circ\text{C}$ , rated $V_{RRM}$ applied after surge.
	10200		60 Hz half cycle sine wave
	11130		50 Hz half cycle sine wave Initial $T_J = 200^\circ\text{C}$ , no voltage applied after surge.
	12132		60 Hz half cycle sine wave
$I^2t$ Max. $I^2t$ capability	331	$\text{kA}^2\text{s}$	$t = 10\text{ms}$ Initial $T_J = 200^\circ\text{C}$ , rated $V_{RRM}$ applied after surge.
	361		$t = 8.3\text{ms}$
	469		$t = 10\text{ms}$ Initial $T_J = 200^\circ\text{C}$ , no voltage applied after surge.
	511		$t = 8.3\text{ms}$
$I^2t^{1/2}$ Max. $I^2t^{1/2}$ capability	3840	$\text{kA}^2\text{s}^{1/2}$	Initial $T_J = 200^\circ\text{C}$ , no voltage applied after surge. $I^2t$ for time $t_x = I^2t^{1/2} * t_x^{1/2}$ . (0.1 < $t_x$ < 10ms).
F Mounting Force	30(~267)	N.m(Lbf.in)	-



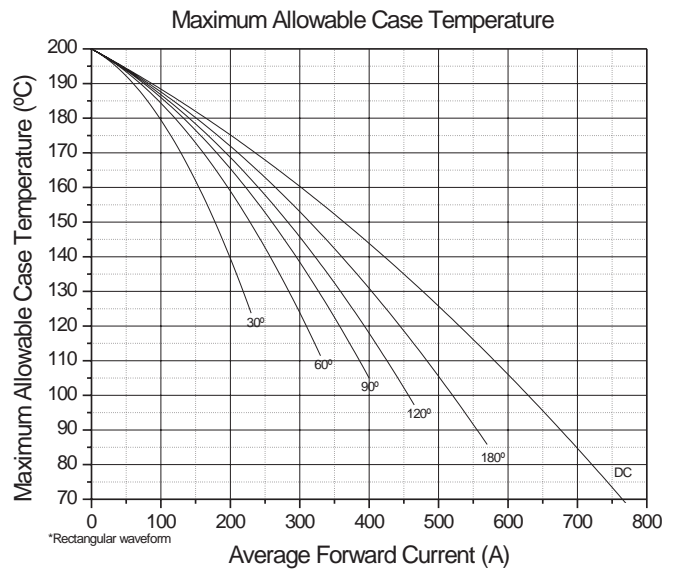
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## CHARACTERISTICS

PARAMETER	MIN.	TYP.	MAX.	UNITS	TEST CONDITIONS
V <sub>FM</sub> Peak forward voltage	---	1.1	1.20	V	Initial T <sub>J</sub> = 25°C, sinusoidal wave, I <sub>peak</sub> = 1275A.
V <sub>F(TO)</sub> Threshold voltage	---	---	0.83	V	T <sub>J</sub> = 200°C, Av. Power = V <sub>F(TO)</sub> *I <sub>F(AV)</sub> +r <sub>F</sub> *[I <sub>F(RMS)</sub> ] <sup>2</sup> , sine.
r <sub>F1</sub> Forward slope resistance	---	---	0.65	mΩ	Use low values for I <sub>FM</sub> < πI <sub>F(AV)</sub>
I <sub>RM</sub> Peak reverse current	---	10	15.00	mA	T <sub>J</sub> = 200°C. Max. Rated V <sub>RRM</sub>
R <sub>thJC</sub> Thermal resistance, junction-to-case	---	---	0.20	°C/W	DC operation
	---	---	0.20	°C/W	180° sine wave
	---	---	0.24	°C/W	120° rectangular wave
R <sub>thCS</sub> Thermal resistance, case-to-sink	---	---	0.03	°C/W	Mtg. Surface smooth, flat and greased. Single side.
wt Weight	---	250(8.75)	---	g(oz.)	---
Case Style	DO-205AB (DO-9)			JEDEC	---



**Fig. 1 - Current Ratings Characteristics**



**Fig. 2 - Current Ratings Characteristics**



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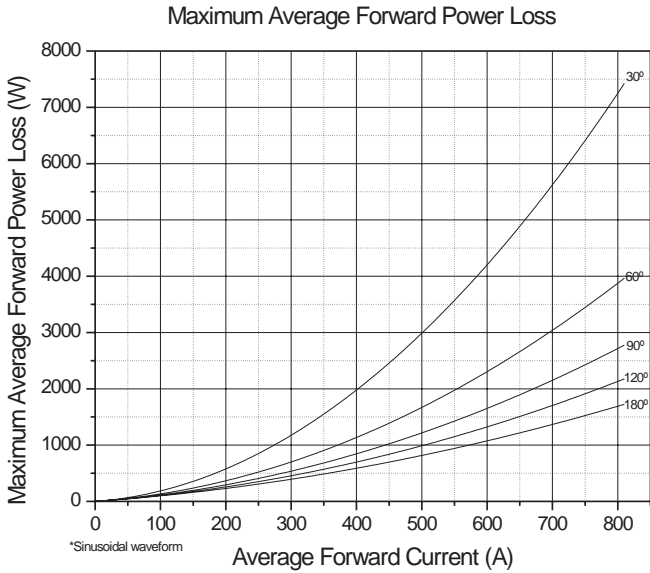


Fig. 3 - Forward Power Loss Characteristics

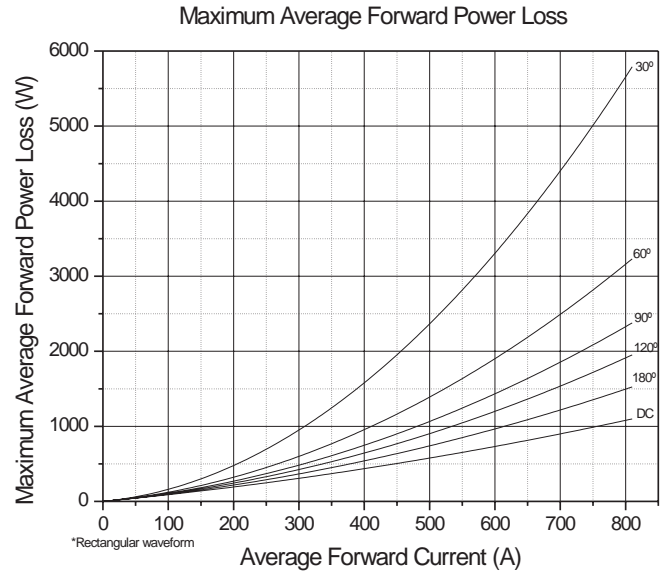


Fig. 4 - Forward Power Loss Characteristics

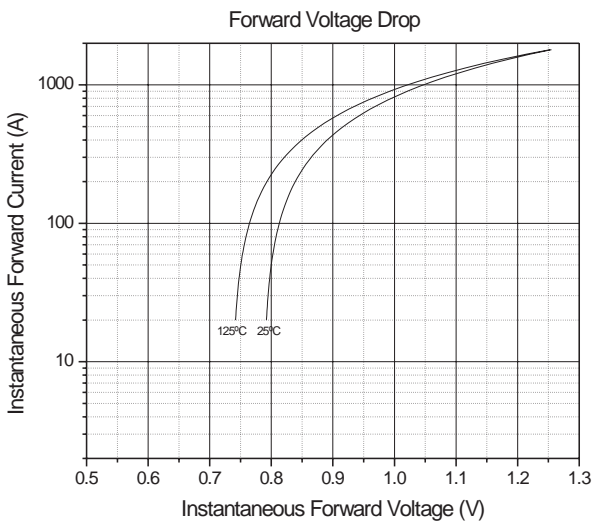


Fig. 5 - Forward Voltage Drop Characteristics

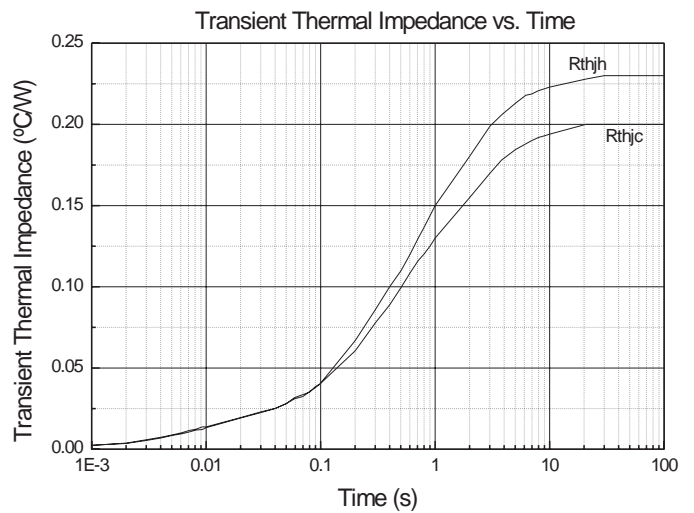


Fig. 6 - Transient Thermal Impedance Characteristics



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**DO-205AB (DO-9)**

