KomKraft

D

D400 Series

Standard Recovery Diodes

FEATURES

- High surge capability
- Qualified for industrial level
- International standard case DO-205AD
- Both metric and inch threads

TYPICAL APPLICATIONS

- Power supplies
- Machine tools control
- High power drives
- Welders
- Medium traction

MAJOR RATINGS AND CHARACTERISTICS			
PARAMETER	**TEST CONDITIONS**	**VALUES**	**UNITS**
$I_{F(AV)}$		400	A
	T_{Case}	125	^{o}C
$I_{F(RMS)}$		700	A
	T_{Case}	125	^{o}C
I_{FSM}	50 Hz	10180	A
	60 Hz	11100	A
I^2t	50 Hz	429	kA^2s
	60 Hz	468	kA^2s
V_{DRM}/V_{RRM}		200 to 1600	V
T_J		-40 to 180	^{o}C

ELECTRICAL SPECIFICATIONS

VOLTAGE RATINGS				
SERIES	**VOLTAGE CODE**	**V_{DRM} / V_{RRM}, MAX. REPETITIVE PEAK AND OFF-STATE VOLTAGE (V)**	**V_{RSM}, MAX. NON-REPETITIVE PEAK VOLTAGE (V)**	**I_{DRM} / I_{RRM}, MAX. at T_J = $T_{J(Max.)}$ (mA)**
D400/...	18	1800	1900	60
D400/...	20	2000	2100	
D400/...	22	2200	2300	
D400/...	24	2400	2500	
D400/...	26	2600	2700	
D400/...	28	2800	2900	
D400/...	30	3000	3100	

Standard Recovery Diodes

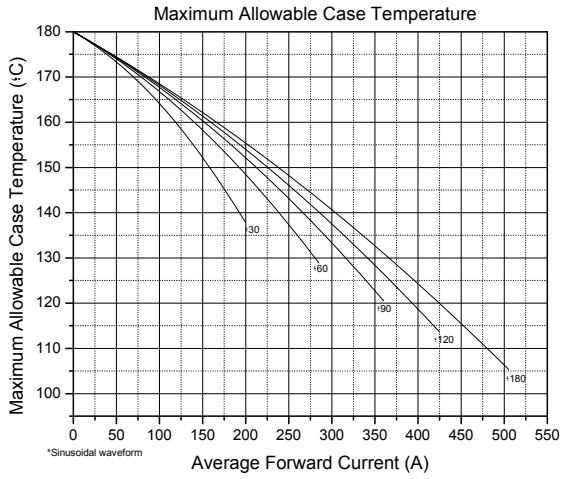
MAXIMUM ALLOWABLE RATINGS						
SYMBOL	**DESCRIPTION**	**TEST CONDITIONS**			**VALUE**	**UNITS**
$I_{F(AV)}$	Maximum average on-state current at heatsink temperature	180º conduction, half sine wave			400	A
					125	ºC
$I_{F(RMS)}$	Maximum RMS on-state current	DC at 25ºC heatsink temperature			700	A
I_{FSM}	Maximum peak, one-cycle non-repetitive surge current	t = 10 ms	100% V_{RRM} reapplied	Sinusoidal half wave, initial T_J = T_J max.	8.56	kA
		t = 8.3 ms			9.33	
		t = 10 ms	No voltage reapplied		10.18	
		t = 8.3 ms			11.1	
I^2t	Maximum I^2t	t = 10 ms	100% V_{RRM} reapplied		303	kA^2s
		t = 8.3 ms			331	
		t = 10 ms	No voltage reapplied		429	
		t = 8.3 ms			468	
$I^2t^{1/2}$	Maximum $I^2t^{1/2}$	t = 0.1 to 10 ms, no voltage reapplied			3800	$kA^2s^{1/2}$
$V_{F(T0)}$	Low level threshold voltage	(16.7% x π x $I_{F(AV)}$ < I < π x $I_{F(AV)}$), T_J = T_J max.			0.97	V
r_F	Low level on-state slope resistance				0.30	mΩ
V_{FM}	Maximum on-state voltage	I_{pk} = 1256A, 50Hz half sine pulse, T_J = T_J max.			1.45	V

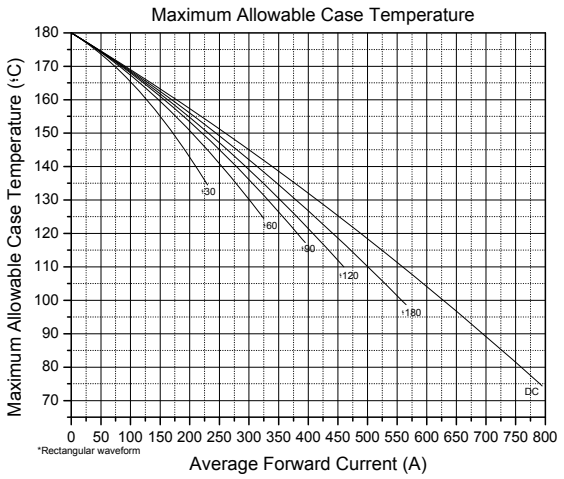
THERMAL AND MECHANICAL SPECIFICATIONS				
SYMBOL	**DESCRIPTION**	**TEST CONDITIONS**	**VALUE**	**UNITS**
T_J	Maximum operating junction temperature	-	-40 to 180	ºC
T_{Stg}	Maximum storage temperature	-	-40 to 180	
R_{thJ-hs}	Maximum termal resistance, junction to heatsink	DC	0.110	ºC/W
		180º sine wave	0.120	
		120º rectangular wave	0.130	
R_{thC-hs}	Maximum termal resistance, case to heat-sink	Mtg. Surface smooth, flat, greased	0.010	
-	Mounting force, ± 10%	-	60	N.m
-	Approximate weight	-	500	g
-	Case style	-	DO-205AD	JEDEC

CURRENT FORM FACTOR							
FORM FACTOR / **CONDUCTION ANGLE**	**15º**	**30º**	**45º**	**60º**	**90º**	**120º**	**180º**
Sine wave	31.956	15.832	10.452	7.721	4.933	3.527	2.468
Rectangular wave	24.000	12.000	8.000	6.000	4.000	3.000	2.000

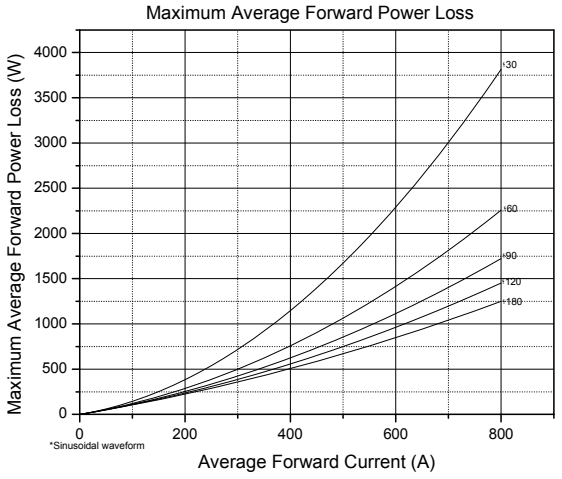
Standard Recovery Diodes

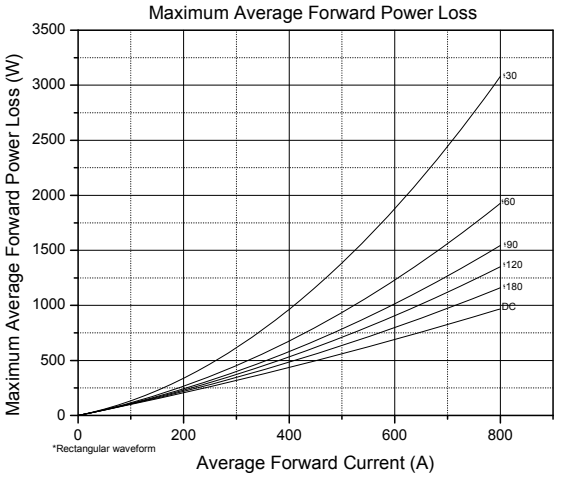
CURRENT RATINGS CHARACTERISTICS





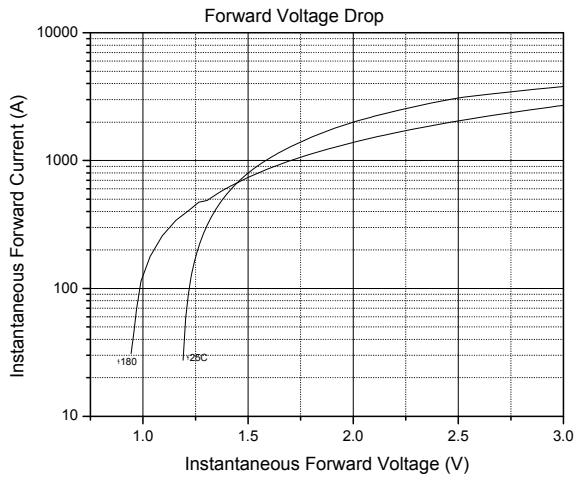
ON-STATE POWER LOSS CHARACTERISTICS

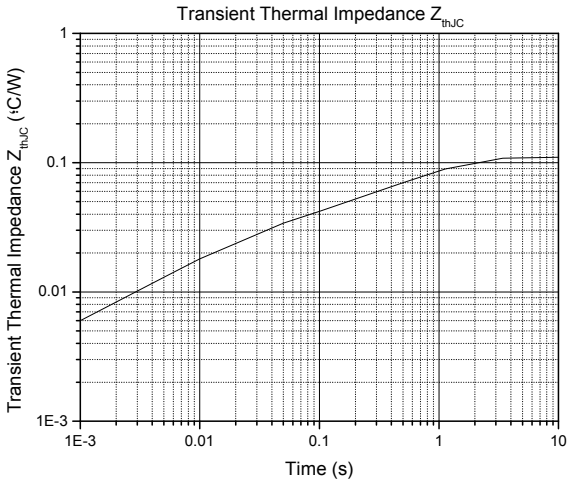




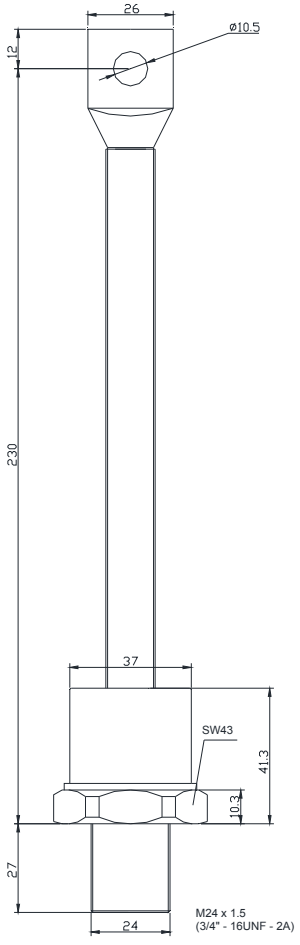
Standard Recovery Diodes

FORWARD VOLTAGE DROP / THERMAL IMPEDANCE CHARACTERISTICS





OUTLINE CHARACTERISTICS



Standard Recovery Diodes

ORDERING INFORMATION

Device code

D	400	/	30	-	M	-
①	②	③	④	⑤	⑥	⑦

1	-	N = Phase Control Thyristors
	-	F = Fast Thyristors (inverter grade)
	-	D = Normal Recovery Diodes
	-	DF = Fast Recovery Diodes
	-	DD = Module (diode-diode)
	-	DT = Module (diode-thyristor)
	-	TD = Module (thyristor-diode)
	-	TT = Module (thyristor-thyristor)
	-	P = Press-fit diode
2	-	Average Current Code
3	-	Essential Part Number
4	-	Voltage Code x 100 = V_{RRM}
5	-	Turn-off time (fast thyristors only)
	-	Reverse Recovery Time (fast diodes only)
6	-	M = Metric Thread
	-	I = Inch Thread
7	-	None = Anode to stud (stud diodes only)
	-	R = Cathode to stud (stud diodes only)

Disclaimer

All product specifications and data are subject to change without notice.

Komkraft Ind.Com.de Componentes Eletrônicos Ltda., its affiliates, agents and employees, and all persons acting on its or their behalf (collectively, “Komkraft”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

Komkraft disclaims any and all liability arising of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Komkraft’s terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

The products shown herein are not designed for use in medical, life-saving or life-sustaining applications unless otherwise expressly indicated.