

2430006 COORS COMPONENTS INC

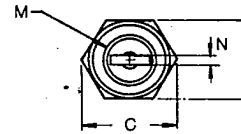
Silicon Rectifiers/Fast Recovery

6 AMP Avg; V_{RRM} up to 400 Volts

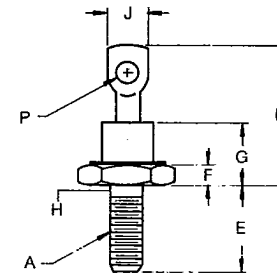
Series 006
1N3879-1N3883

82D 00086 D T-03-17 -

- 6 Amperes Average, $T_C = 100^\circ\text{C}$
- 300 Nanoseconds Recovery Time at 20 Amperes
- 200 Nanoseconds Recovery Time at 1.0 Amperes
- Blocking Voltage to 400 Volts



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.427	.437	10.84	11.09	
C	---	.505	---	12.82	
D	---	.800	---	20.32	
E	.432	.442	10.97	11.22	
F	.095	.105	2.41	2.66	
G	---	.386	---	9.80	
H	.163	.189	4.15	4.80	2
J	---	.250	---	6.35	
M	---	.280	---	7.11	
N	---	.050	---	1.27	
P	.088	.095	2.23	2.41	



DO-203AA
(DO-4)

Note 1: Standard polarity: Stud is cathode
No. 10-32 UNF-2A Reverse polarity: Stud is anode
Note 2:
Full threads within 2½ threads

Catalog Number		JEDEC Numbers*	Peak Reverse Voltage
Standard	Reverse		
S006AADF	R006AADF	1N3879	50
S00601DF	R00601DF	1N3880	100
S00602DF	R00602DF	1N3881	200
S00603DF	R00603DF	1N3882	300
S00604DF	R00604DF	1N3883	400

*To indicate reverse polarity, add suffix "R" to JEDEC number; Example: 1N3879R

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82D 00087 DT-03-17

Electrical Characteristics**Reverse Blocking**

Repetitive peak reverse voltage	V_{RRM}	50V to 400V	
Maximum peak reverse current	I_{RRM}	1.0mA	$T_C = 100^\circ\text{C}$
		15 μ A	$T_C = 25^\circ\text{C}$

Forward Direction

Maximum average forward current	$I_{F(AV)}$	6.0 Amps	Single phase, half-wave rating at $T_C = 100^\circ\text{C}$
Maximum surge current	I_{FSM}	75 Amps	One half cycle of 60 Hz sine wave
Maximum peak forward voltage	V_{FM}	1.4V max.	$I_{FM} = 19\text{A}, T_C = 25^\circ\text{C}$
	V_{FM}	1.5V max.	$I_{FM} = 19\text{A}, T_C = 100^\circ\text{C}$
Maximum I^2t	I^2t	23 A ² S	less than 8.33 ms

Reverse Recovery Values

Maximum reverse recovery time	t_{rr}	200 ns	$I_{FM} = 1.0\text{A}, V_R = 30\text{V}$ (see figure 7)
Maximum reverse recovery time	t_{rr}	300 ns	$I_{FM} = 20\text{A}, di/dt = 25\text{A}/\mu\text{s}$ $t_p \geq 2 \mu\text{s}, I_{RM(REC)} = 4.0\text{A}$ (see figure 8)

Thermal values

Storage temp range	T_{stg}	-65 $^\circ\text{C}$ to +175 $^\circ\text{C}$
Operating junction temp range	T_J	-65 $^\circ\text{C}$ to +150 $^\circ\text{C}$
Maximum thermal resistance		
junction to case	$R_{\theta JC}$	3.0 $^\circ\text{C}/\text{W}$

Mechanical Characteristics

Base	Steel stud and base with a 10-32 UNF-2A thread for through mounting on a heat sink. Nickel plating prevents corrosion.
Header	Glass to metal construction.
Weight	Approximately 0.16 ounce (4.5 grams)
Mounting Position	May be mounted in any position
Mounting Torque	30 inch pounds maximum
Dimensions	In accordance with JEDEC DO-203AA (DO4) outline

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Series 006

82D 00088 DT-03-17

Figure 1
Maximum case temperature

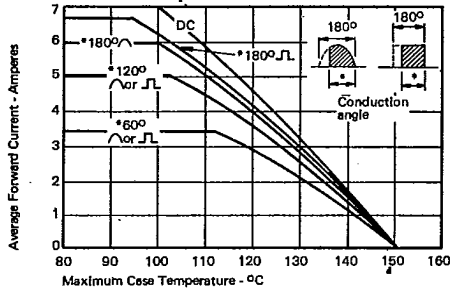


Figure 3
Maximum power dissipation

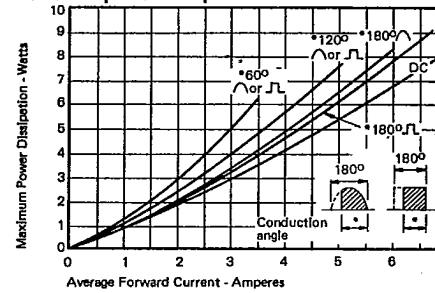


Figure 2
Maximum forward on-state characteristics

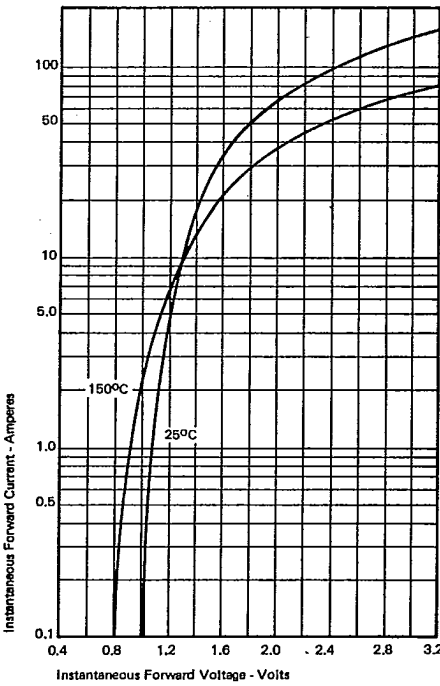


Figure 4
Maximum nonrepetitive surge current at rated load conditions

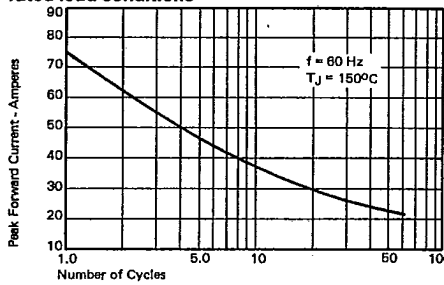


Figure 5
Maximum transient thermal impedance

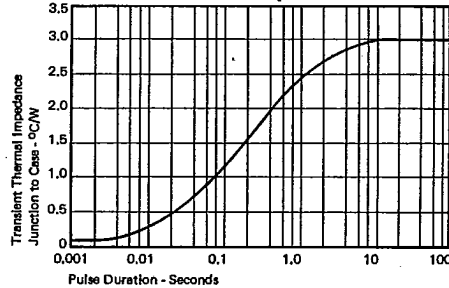


Figure 6
Reverse recovery time

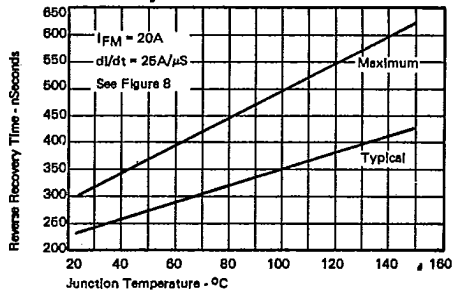


Figure 9
Typical recovered charge at $T_J = 25^\circ\text{C}$

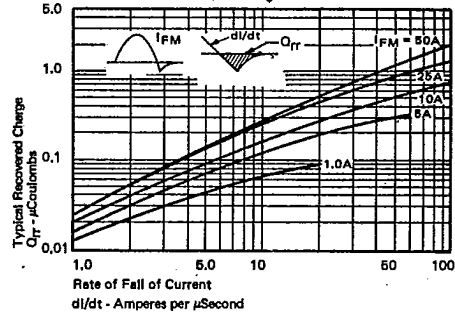


Figure 7
Former JEDEC reverse recovery circuit

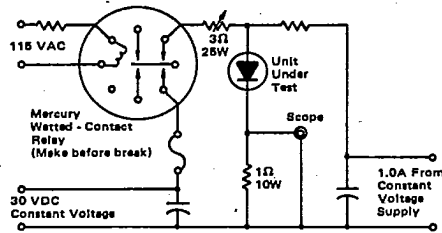


Figure 10
Typical recovered charge at $T_J = 100^\circ\text{C}$

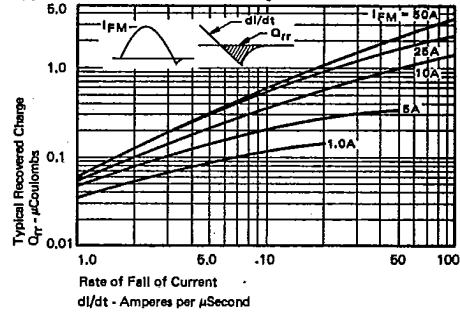


Figure 8
JEDEC Reverse recovery circuit

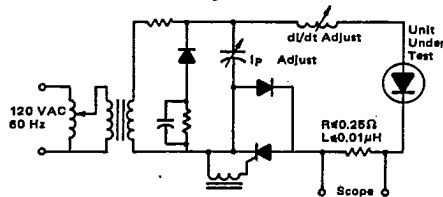


Figure 11
Typical recovered charge at $T_J = 150^\circ\text{C}$

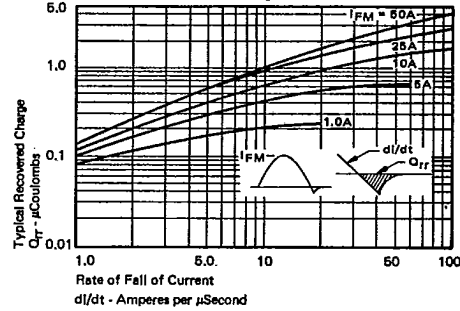
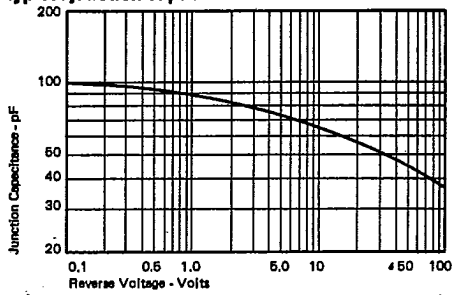


Figure 12
Typical junction capacitance



Reverse current

Figure 13
Effects of temperature

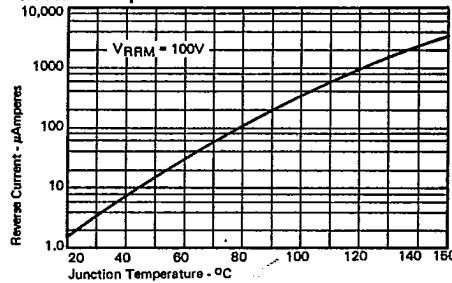


Figure 14
Effects of reverse voltage

