

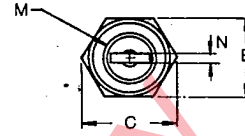
2430006 COORS COMPONENTS INC

**Silicon Rectifiers/Fast Recovery**  
 6 AMP Avg;  $V_{RRM}$  up to 400 Volts

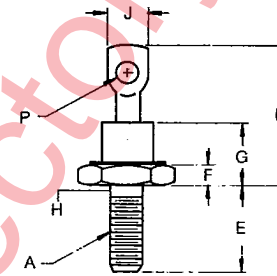
**Series 006**  
**1N3879-1N3883**

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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Silicon Rectifiers, Fast Recovery

Series 006

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 $\mu$ 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 <sup>2</sup> 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

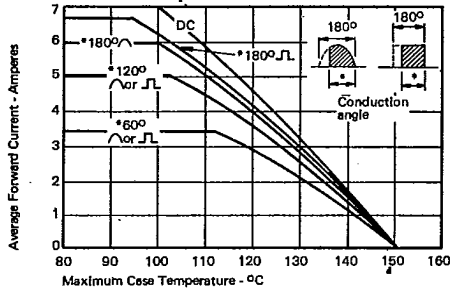
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Silicon Rectifiers, Fast Recovery

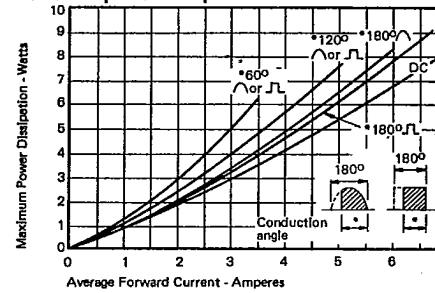
Series 006

82D 00088 DT-03-17

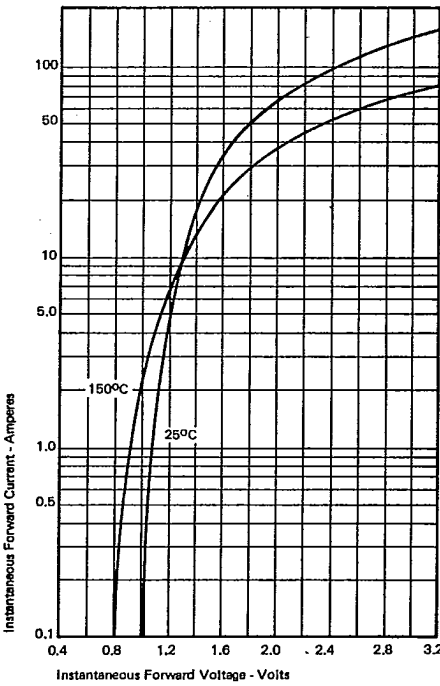
**Figure 1**  
Maximum case temperature



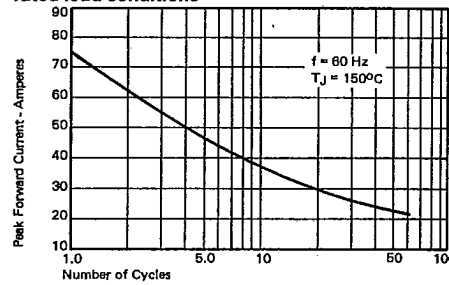
**Figure 3**  
Maximum power dissipation



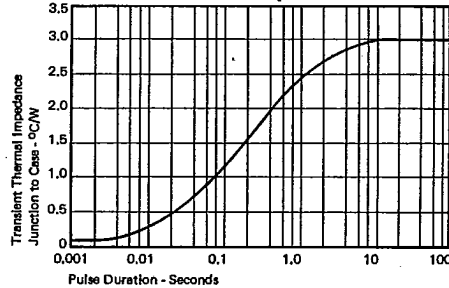
**Figure 2**  
Maximum forward on-state characteristics



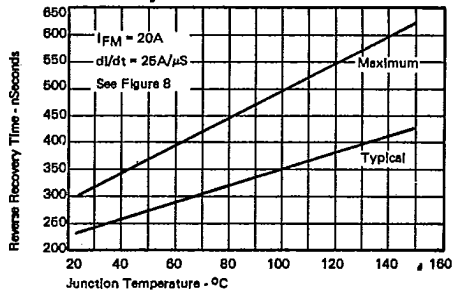
**Figure 4**  
Maximum nonrepetitive surge current at rated load conditions



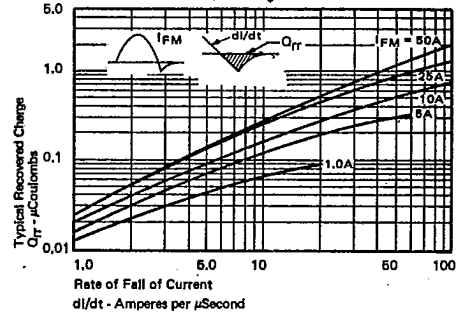
**Figure 5**  
Maximum transient thermal impedance



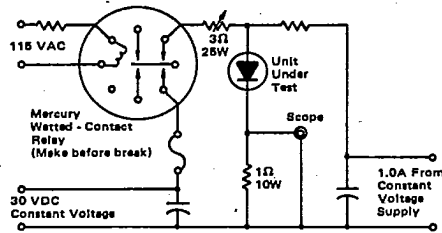
**Figure 6**  
Reverse recovery time



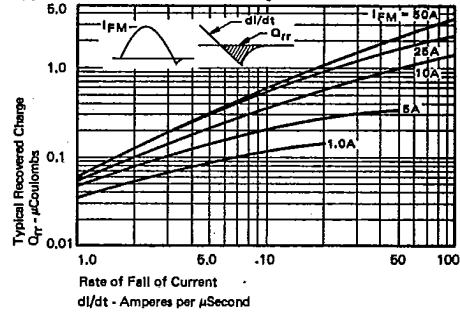
**Figure 9**  
Typical recovered charge at  $T_J = 25^\circ\text{C}$



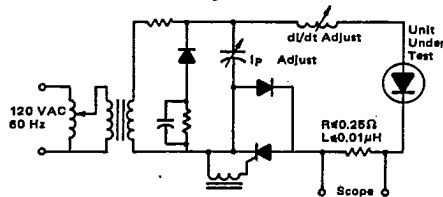
**Figure 7**  
Former JEDEC reverse recovery circuit



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



**Figure 8**  
JEDEC Reverse recovery circuit



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

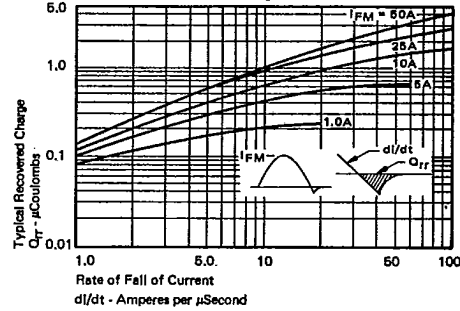
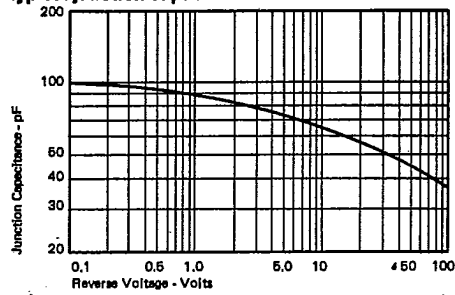


Figure 12  
Typical junction capacitance



Reverse current

Figure 13  
Effects of temperature

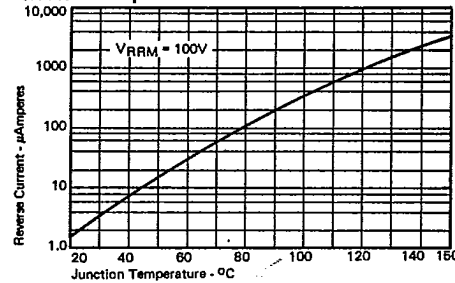


Figure 14  
Effects of reverse voltage

