

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak repetitive forward and reverse blocking voltage⁽¹⁾ ($R_{GK} = 1k\Omega$, $T_J = -40$ to $+110^\circ\text{C}$) C106Q C106Y C106F C106A C106B C106C C106D C106E C106M	V_{RRM}, V_{DRM}	15 30 50 100 200 300 400 500 600	Volts
Forward current RMS (all conduction angles)	$I_{T(RMS)}$	4	Amps
Average forward current ($T_A = 30^\circ\text{C}$)	$I_{T(AV)}$	2.55	Amps
Peak non-repetitive surge current (1/2 cycle, 60Hz, $T_J = -40$ to $+110^\circ\text{C}$)	I_{TSM}	20	Amps
Circuit fusing considerations ($t = 8.3\text{ms}$)	I^2t	1.65	A^2s
Peak gate power	P_{GM}	0.5	Watts
Average gate power	$P_{G(AV)}$	0.1	Watts
Forward peak gate current	I_{GFM}	0.2	Amps
Peak reverse gate voltage	V_{GRM}	6	Volts
Operating junction temperature range	T_J	-40 to +110	$^\circ\text{C}$
Storage temperature range	T_{stg}	-40 to +150	$^\circ\text{C}$
Mounting torque⁽²⁾		6	In. lb.

Note 1: V_{DRM} and V_{RRM} for all types can be applied on a continuous basis. Ratings apply for zero or negative gate voltage; however, positive gate voltage shall not be applied concurrent with negative potential on the anode. Blocking voltages shall not be tested with a constant current source such that the voltage ratings of the devices are exceeded.

Note 2: Torque rating applies with use of compression washer. Mounting torque in excess of 6 in. lb. does not appreciably lower case-to-sink thermal resistance. Anode lead and heatsink contact pad are common. Soldering temperature shall not exceed 200°C . For optimum results, an activated flux is recommended.

THERMAL CHARACTERISTICS

Characteristic	Symbol	Maximum	Unit
Thermal resistance, junction to case	$R_{\theta JC}$	3	$^\circ\text{C}/\text{W}$
Thermal resistance, junction to ambient	$R_{\theta JA}$	75	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise specified)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Peak forward or reverse blocking current ($V_{AK} = \text{rated } V_{DRM} \text{ or } V_{RRM}$, $R_{GK} = 1k\Omega$) $T_J = 25^\circ\text{C}$ $T_J = 110^\circ\text{C}$	I_{DRM}, I_{RRM}	-	-	10 100	μA

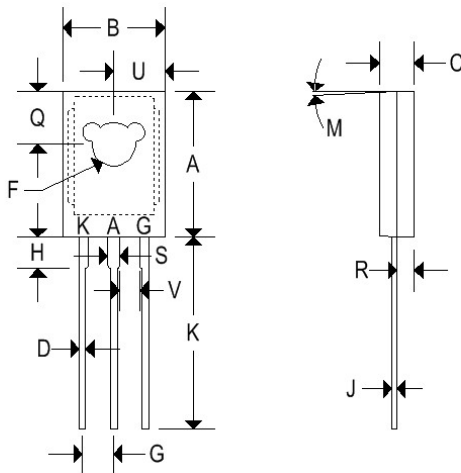
C106 SERIES

SILICON CONTROLLED RECTIFIERS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Forward "on" voltage ($I_{FM} = 1A$ peak)	V_{TM}	-	-	2.2	Volts
Gate trigger current (continuous dc) ($V_{AK} = 6Vdc, R_L = 100\Omega$) ($V_{AK} = 6Vdc, R_L = 100\Omega, T_C = -40^\circ C$)	I_{GT}	-	30 75	200 500	μA
Gate trigger voltage (continuous dc) ($V_{AK} = 6Vdc, R_L = 100\Omega$) ($V_{AK} = 6Vdc, R_L = 100\Omega, T_C = -40^\circ C$)	V_{GT}	0.4 0.5	0.60 0.75	0.8 1.0	Volts
Holding current ($V_D = 12Vdc, R_{GK} = 1k\Omega$) $T_J = 25^\circ C$ $T_J = -40^\circ C$ $T_J = 110^\circ C$	I_H	0.3 0.4 0.14	- - -	3 6 2	mA
Forward voltage application rate ($T_J = 110^\circ C, R_{GK} = 1000\Omega, V_D = \text{rated } V_{DRM}$)	dv/dt	-	8	-	V/ μs
Turn-on time	t_{gt}	-	1.2	-	μs
Turn-off time	t_q	-	40	-	μs

MECHANICAL CHARACTERISTICS

Case:	TO-126
Marking:	Body painted, alpha-numeric
Polarity:	Cathode band



	TO-126			
	Inches		Millimeters	
	Min	Max	Min	Max
A	0.425	0.435	10.80	11.050
B	0.295	0.305	7.490	7.750
C	0.095	0.105	2.410	2.670
D	0.020	0.026	0.510	0.660
F	0.115	0.125	2.920	3.180
G	0.091	0.097	2.310	2.460
H	0.050	0.095	1.270	2.410
J	0.015	0.025	0.380	0.640
K	0.595	0.655	15.110	16.640
M	3° TYP		3° TYP	
Q	0.148	0.158	3.760	4.010
R	0.045	0.055	1.140	1.400
S	0.025	0.035	0.640	0.890
U	0.145	0.155	3.680	3.940
V	0.040	-	1.020	-

C106 SERIES

SILICON CONTROLLED RECTIFIERS

FIGURE 1 – AVERAGE CURRENT DERATING

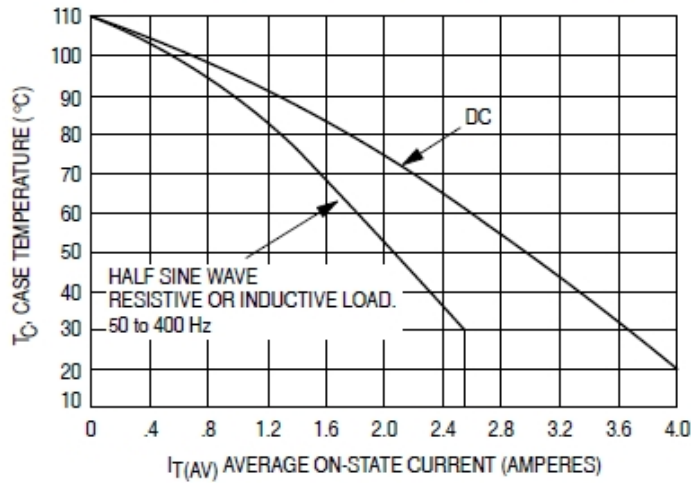


FIGURE 2 – MAXIMUM ON-STATE POWER DISSIPATION

