GENERAL DESCRIPTION

The CM03X provides excellent $R_{DS(ON)}$ and low gate charge by using advanced BiCMOS technology.

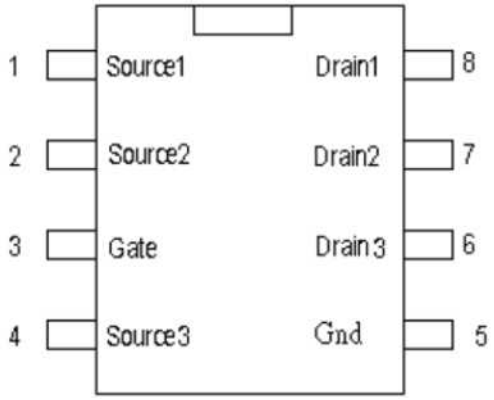
The CM03X is designed to reduce the no load consumption or so called Phantom power for AC Adapter, Desk Top PC power supply, LCD Power Supply and others.

FEATURES

- No load consumption can be reduced ~180mW for EPA/Climate Saver Application to reduce the phantom power.
- $R_{DS(ON)}$ = 176 Ω (typ.) @V_{GS} = 5V/ ID=10mA
- $R_{DS(ON)}$ = 200 Ω (typ.) @V_{GS} = 2.5V/ ID=10mA
- Reliable and rugged
- Package DIP-8Pin

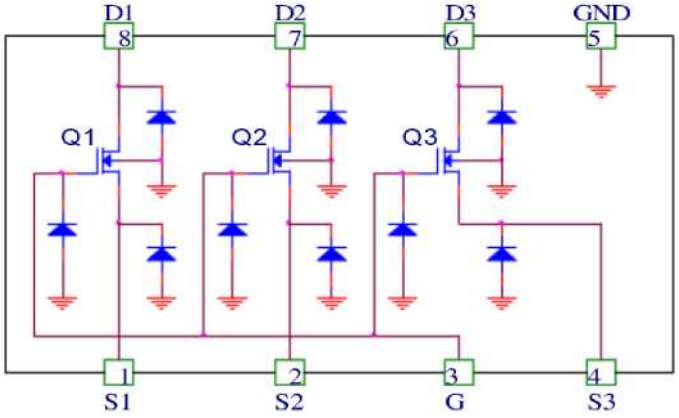
PIN CONFIGURATION

DIP-8 Pin Top View



SYMBOL

N-Channel



ORDERING INFORMATION

Part Number	Temperature Range	Package
CM03XIP*	-55°C to 150°C	8-Pin DIP (P8)

***Note**: X : Suffix for Halogen Free and PB Free Product

ABSOLUTE MAXIMUM RATINGS (TA=25 °C, unless otherwise specified)

PARAMETER Symbol		RATINGS	Unit
Drain-Source Voltage	V_{DSS}	650	V
Gate-Source Voltage	V_{GSS}	+20/-0.3	V
Continuous Drain Current *	I_D	25	mA
Pulsed Continuous Drain Current *	I_{DM}	200	mA
Power Dissipation	$P_{D(MAX)}$	1.35	W
Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-55 ~ +150	°C

* : Surface Mounted on 1 in^2 pad area, t ≦10sec

THERMAL DATA

PARAMETER Symbol		Min	TYP	MAX	Unit
Junction to Ambient *	θ_{JA}		74	110	°C/W

* : Surface Mounted on 1 in^2 pad area, t ≦ 10sec

ELECTRICAL CHARACTERISTICS

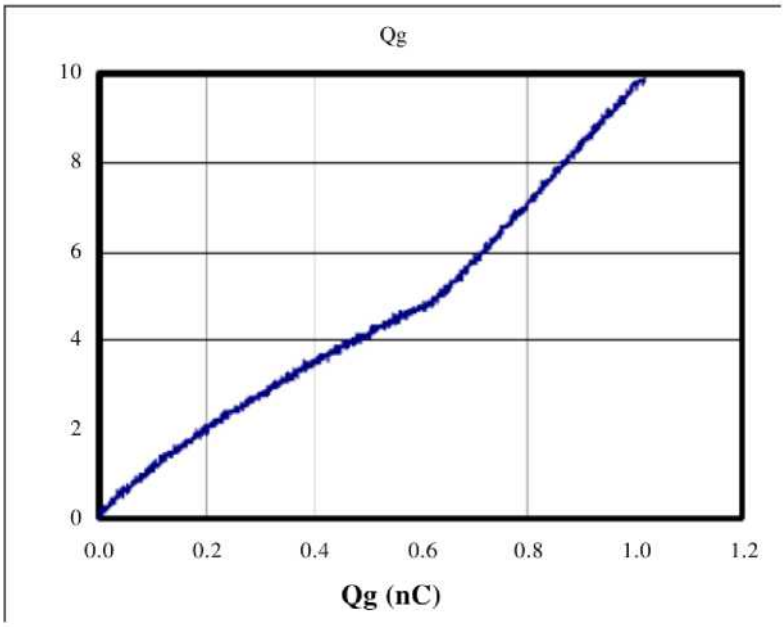
Unless otherwise specified, T_A = 25 °C.

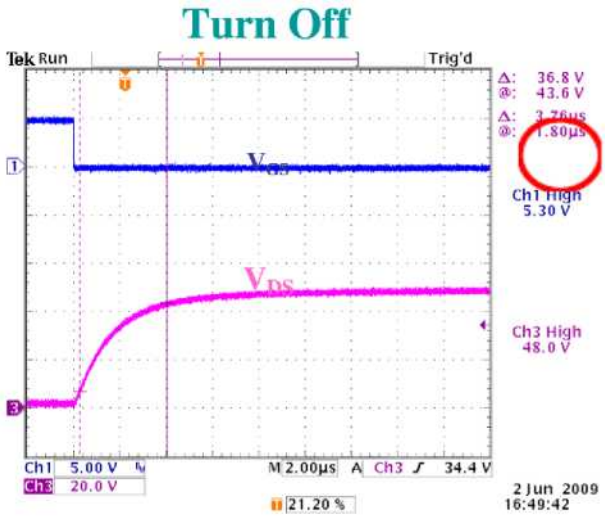
PARAMETER SYMBOL		TEST CONDITIONS	CM03X			
			Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V,I_D=40μA	650			V
Drain-Source Leakage Current	I_{DSS}	V_{DS}=650V, V_{GS}=0V			1	μA
Gate-Source Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±20V			±20	μA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS\ (TH)}$	V_{DS}= V_{GS}, I_D=250μA	0.5	0.7	0.9	V
Drain-Source On-State Resistance (Note 1)	$R_{DS\ (ON)}$	V_{GS}=5V, I_D =10mA	176		250	Ω
		V_{GS}=2.5V, I_D =10mA	200		250	Ω
SWITCHING CHARACTERISTICS						
Turn-On Delay Time (Note 1)	$t_{D(ON)}$	V_{DS}=50V, V_{GS}=5V, R_G=3Ω, R_L=2.7Ω	20			ns
Turn-On Rise Time	t_R		16			ns
Turn-Off Delay Time	$t_{D\ (OFF)}$		4			μs
Turn-Off Fall Time	t_F		3.7			μs
Gate-Source Charge	Q_{GS}	V_{DS}=50V, V_{GS}=10V, I_D =25mA	1			nC
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS						
Drain-Source Diode Forward Voltage (Note 1)	V_{SD}	I_S=25 mA, V_{GS}=0V	0.76		1	V
Diode Continuous Forward Current (Note 2)	I_S			25		mA

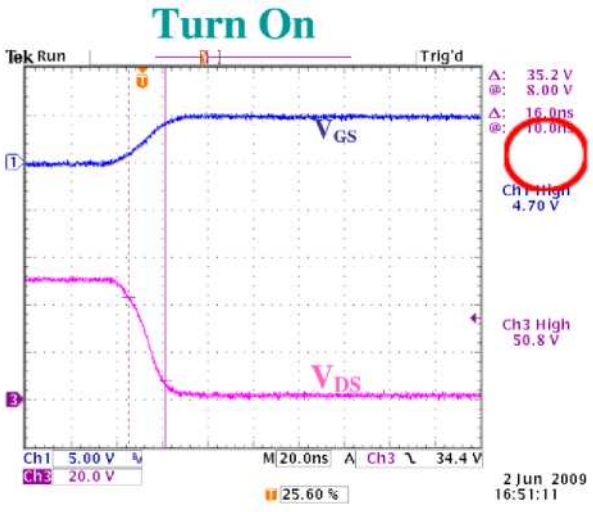
Note 1 : Pulse width ≦300μs, duty cycle ≦ 2%.

Note 2 : Surface Mounted on 1 in^2 pad area, ≦ 10sec

TYPICAL ELECTRICAL CHARACTERISTICS

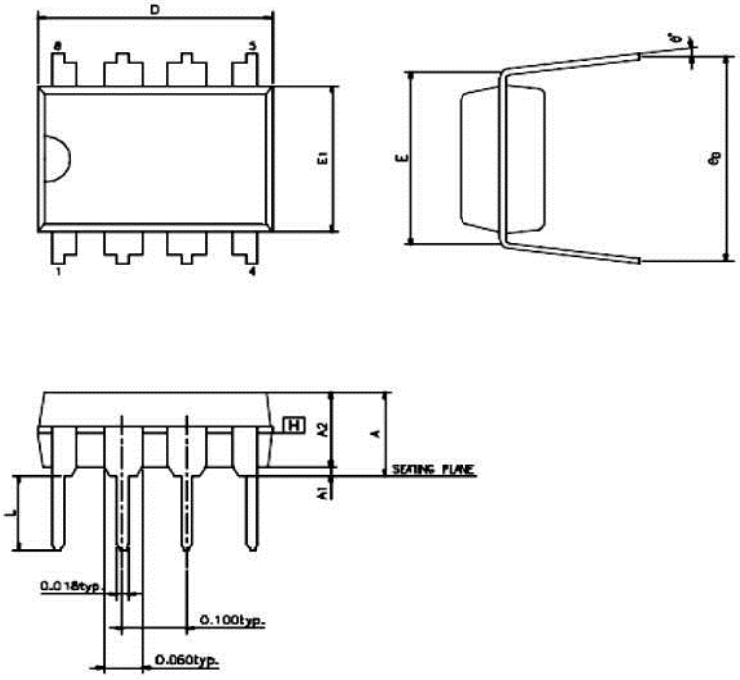






PACKAGE DIMENSION

8-PIN PDIP (P8)



SYMBOLS	MIN.	NOR.	MAX.
A	–	–	0.210
A1	0.015	–	–
A2	0.125	0.130	0.135
D	0.355	0.365	0.400
E		0.300 BSC.	
E1	0.245	0.250	0.255
L	0.115	0.130	0.150
e_B	0.335	0.355	0.375
θ°	0	7	15

UNIT : INCH

NOTES:
1. JEDEC OUTLINE : MS-001 BA
2. "D","E1" DIMENSIONS DO NOT INCLUDE MOLD FLASH OR PROTRUSIONS. MOLD FLASH OR PROTRUSIONS SHALL NOT EXCEED .010 INCH.
3. eB IS MEASURED AT THE LEAD TIPS WITH THE LEADS UNCONSTRAINED.
4. POINTED OR ROUNDED LEAD TIPS ARE PREFERRED TO EASE INSERTION.
5. DISTANCE BETWEEN LEADS INCLUDING DAM BAR PROTRUSIONS TO BE .005 INCH MINIMUM.
6. DATUM PLANE [H] COINCIDENT WITH THE BOTTOM OF LEAD, WHERE LEAD EXITS BODY.

IMPORTANT NOTICE

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