HMUN206

Low-Saturation Motor Driver for Low-Voltage Applications

Description

The HMUN206 is a low-saturation motor driver IC for use in low-voltage applications. The HMUN206 is a bipolar stepper motor driver IC that is ideal for use in Printers, FDDS, Cameras, Video Cameras, VCD Players and other portable devices.

Features

- Low voltage operation
- Low saturation voltage (<500mV, if IC at 1A current)
- Brake function
- Spark killer diodes built in
- Small and light
- Small motor driver circuits used in other electronics equipment

Applications

- Video cameras
- Cameras
- Portable CD players
- Other portable products about small motor driver

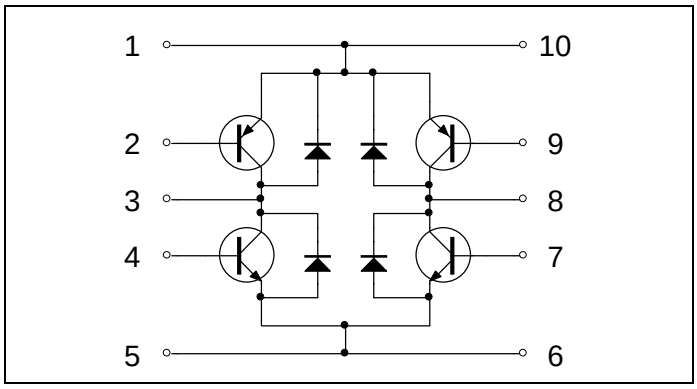
Absolute Maximum Ratings

- Maximum Temperatures
  Storage Temperature ..... -55 ~ +150 °C
  Junction Temperature ..... +150°C Maximum
- Maximum Power Dissipation
  PNP Total Power Dissipation (Ta=25°C±2°C)..... 750 mW
  NPN Total Power Dissipation (Ta=25°C±2°C) ..... 750 mW
- Maximum Voltages and Currents (Ta=25°C±2°C)
  PNP VCBO Collector to Base Voltage..... 40 V
  NPN VCBO Collector to Base Voltage ..... 40 V
  PNP VCEO Collector to Emitter Voltage ..... 25 V
  NPN VCEO Collector to Emitter Voltage ..... 20 V
  PNP VEBO Emitter to Base Voltage..... 6 V
  NPN VEBO Emitter to Base Voltage ..... 7 V
  PNP IC Collector Current (Continuous)..... 1.5 A
  NPN IC Collector Current (Continuous)..... 2 A
  PNP IC Collector Current (Peak PT=10ms) ..... 3 A
  NPN IC Collector Current (Peak PT=10ms) ..... 4 A

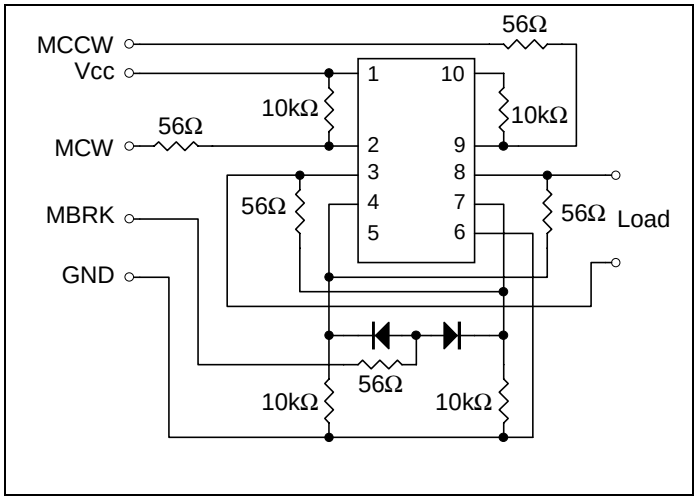
Characteristics (Ta=25°C *Pulse Test : Pulse Width ≤380us, Duty Cycle≤2%)

Symbol	Condition	Min.	Typ.	Max.	Unit
BVCBO	(PNP) IC=100uA, IE=0	40	-	-	V
	(NPN) IC=100uA, IE=0	40	-	-	V
BVCEO	(PNP) IC=2mA, IB=0	25	-	-	V
	(NPN) IC=1mA, IB=0	20	-	-	V
BVEBO	(PNP) IE=100uA, IC=0	6	-	-	V
	(NPN) IE=10uA, IC=0	7	-	-	V
ICBO	(PNP) VCB=35V, IE=0	-	-	100	nA
	(NPN) VCB=10V, IE=0	-	-	100	nA
IEBO	(PNP) VEB=6V, IC=0	-	-	100	nA
	(NPN) VEB=7V, IC=0	-	-	100	nA
*VCE(sat)	(PNP) IC=0.8A, IB=80mA	-	0.25	-	V
	(NPN) IC=1A, IB=100mA	-	0.35	-	V
*hFE	(PNP) VCE=1V, IC=100mA	85	-	500	
	(NPN) VCE=2V, IC=500mA	230	-	800	
fT	(PNP) VCE=10V, IC=50mA	100	-	-	MHz
	(NPN) VCE=6V, IE=50mA	-	150	-	MHz
Cob	(PNP)	-	-	--	pF
	(NPN) VCB=20V, f=1MHz, IE=0	-	-	50	pF

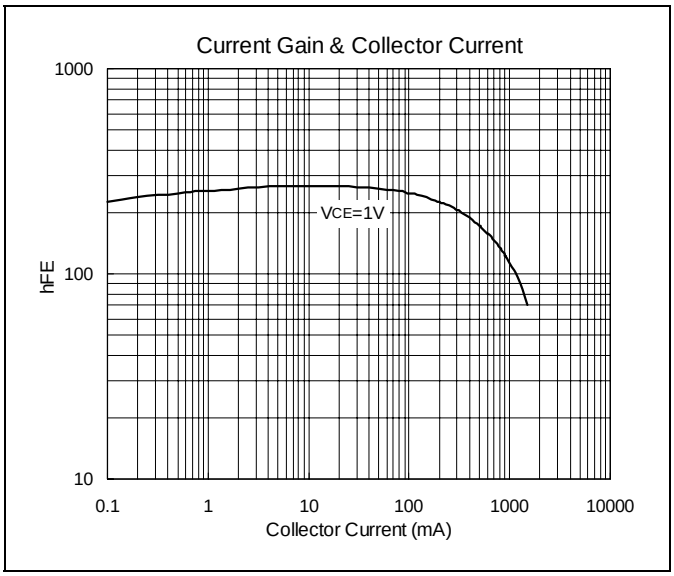
Equivalent Circuit

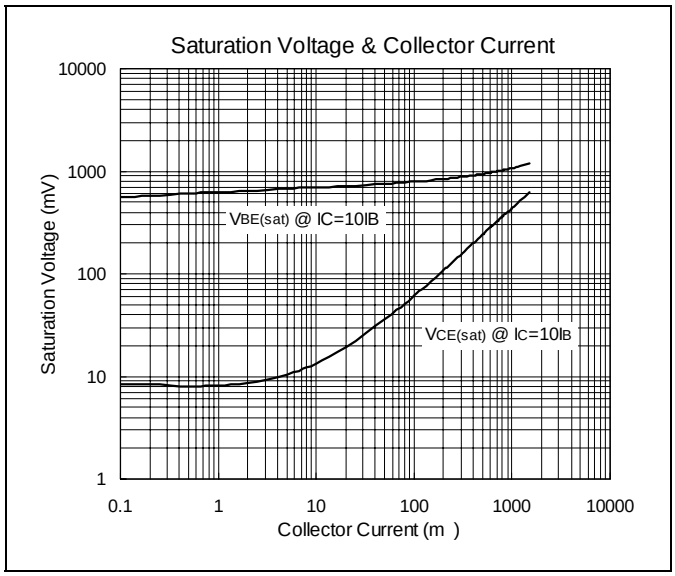


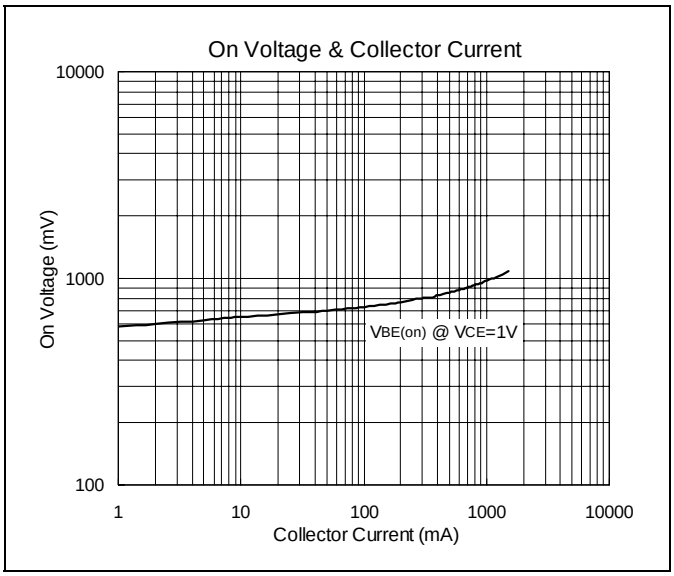
Application Circuit

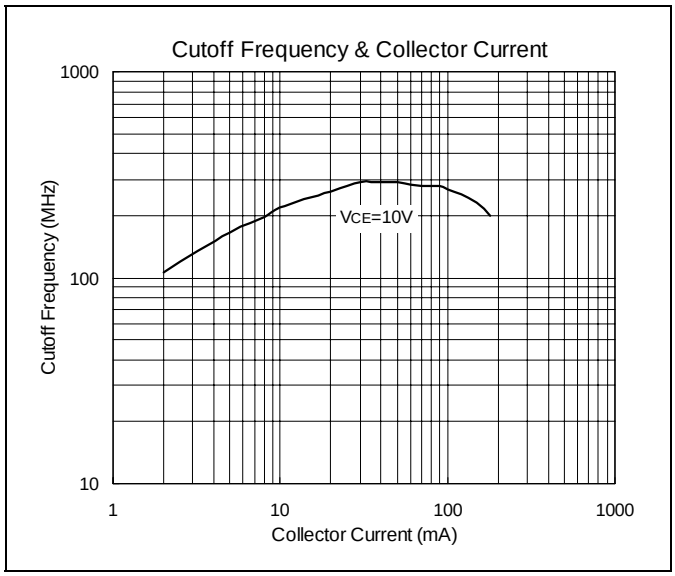


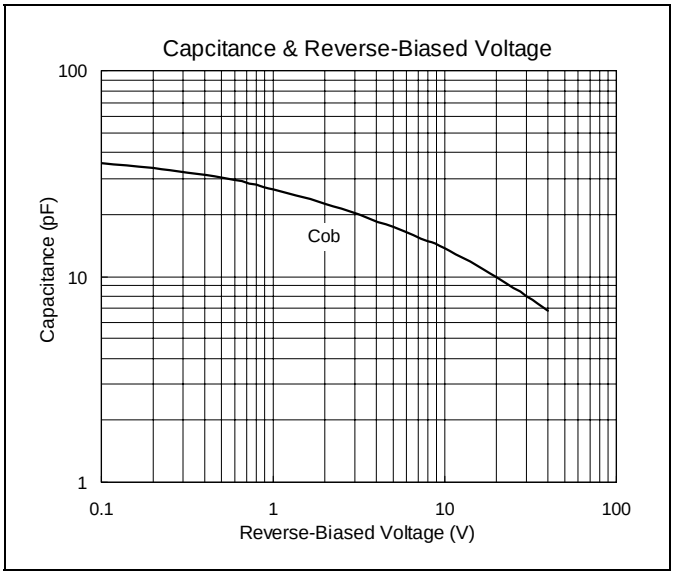
PNP Transistor Characteristics Curve

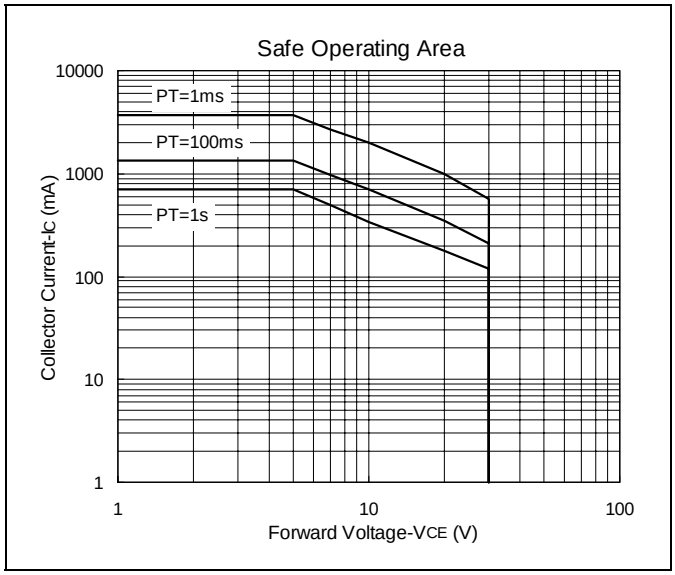




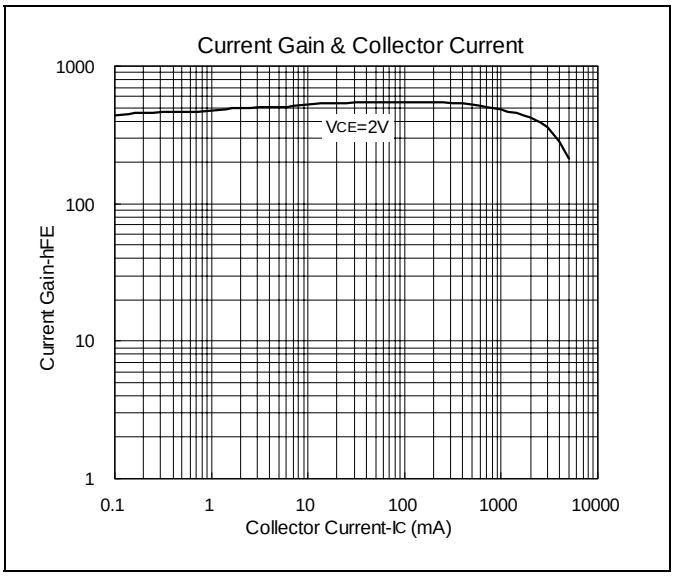


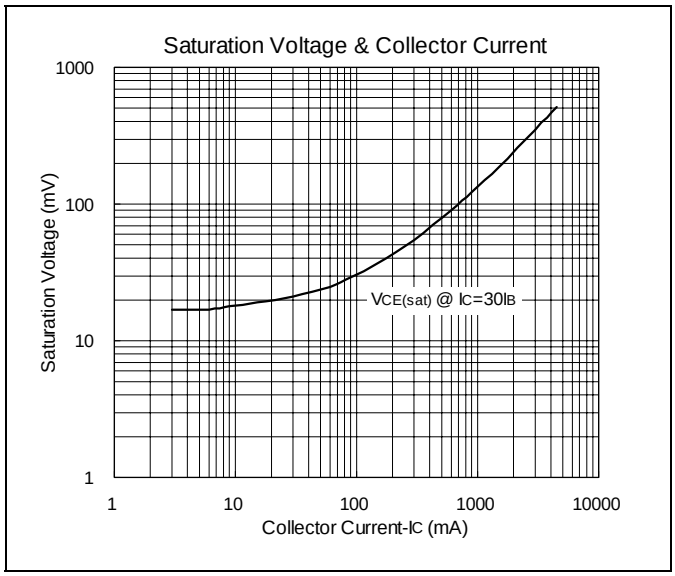


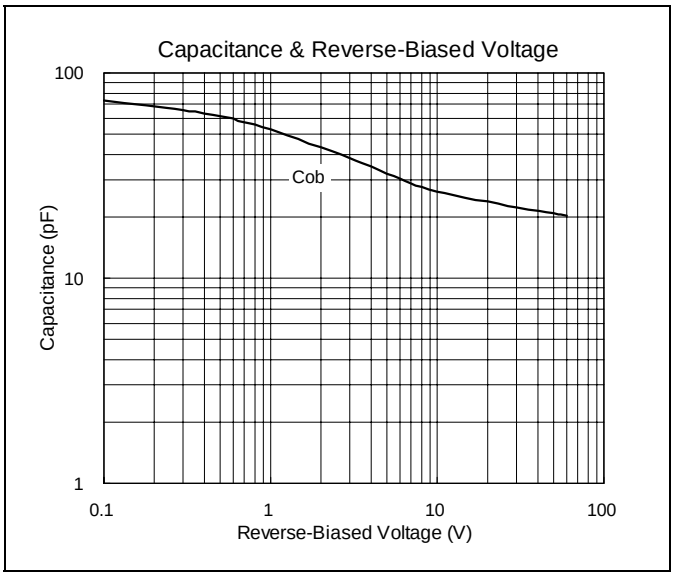


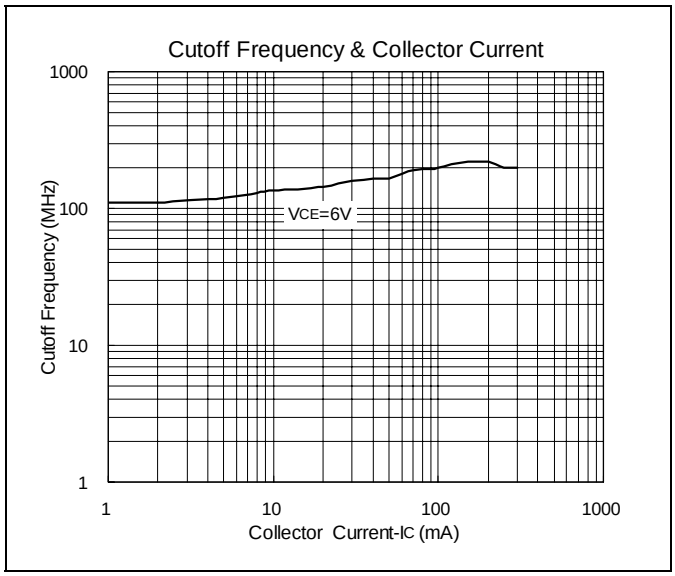


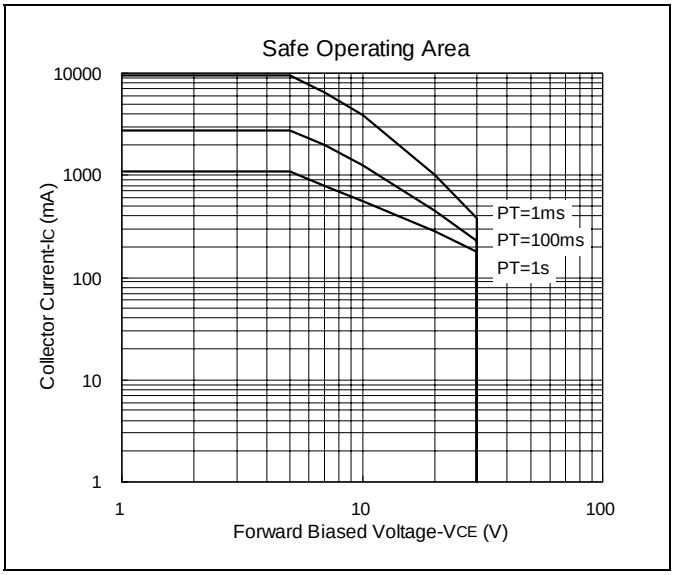
NPN Transistor Characteristics Curve



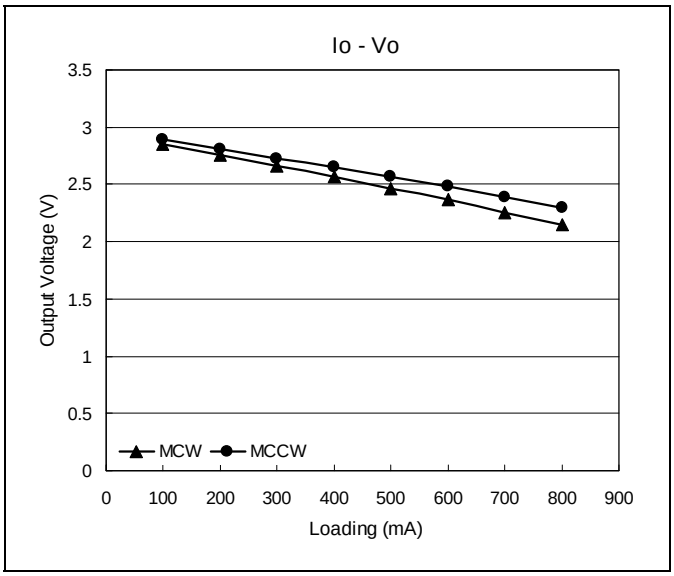


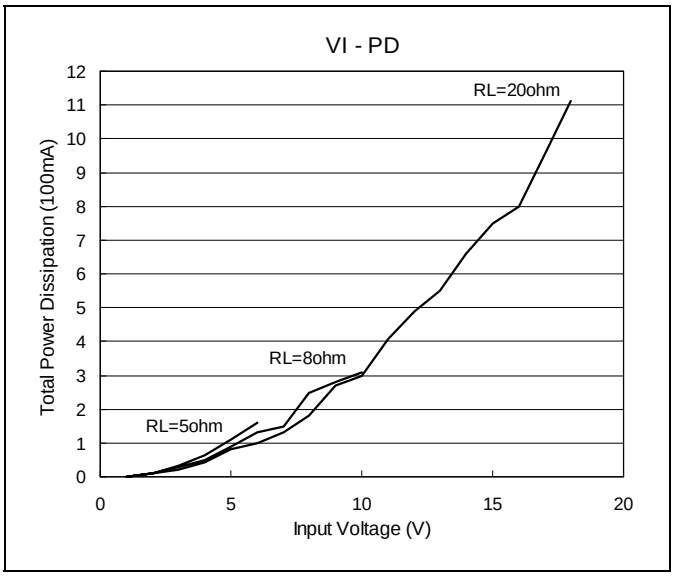


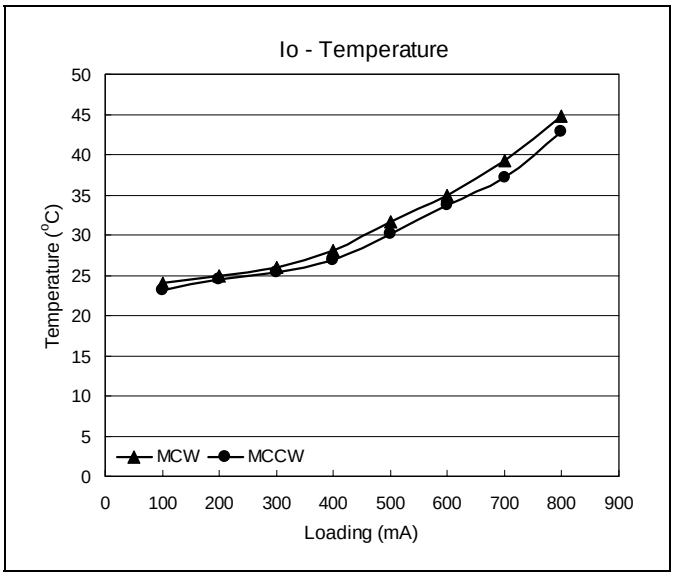


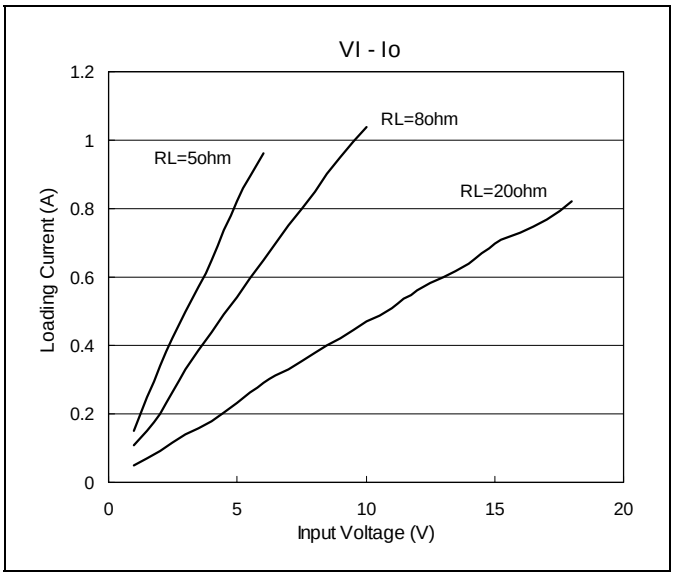


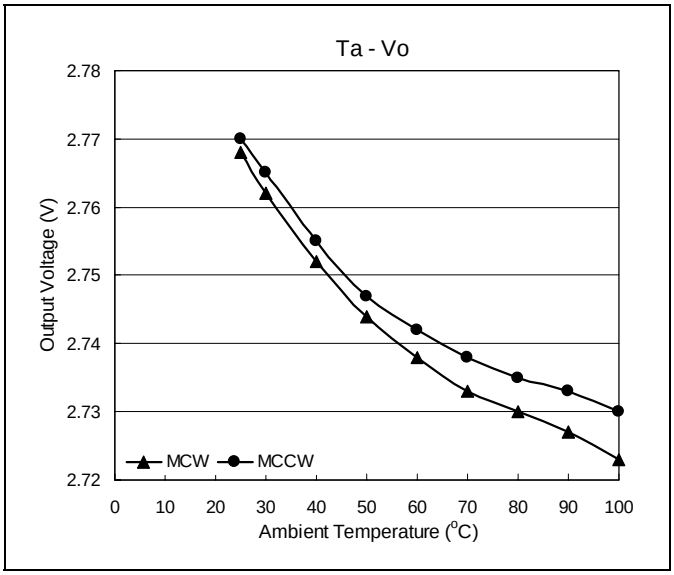
Application Characteristics Curve

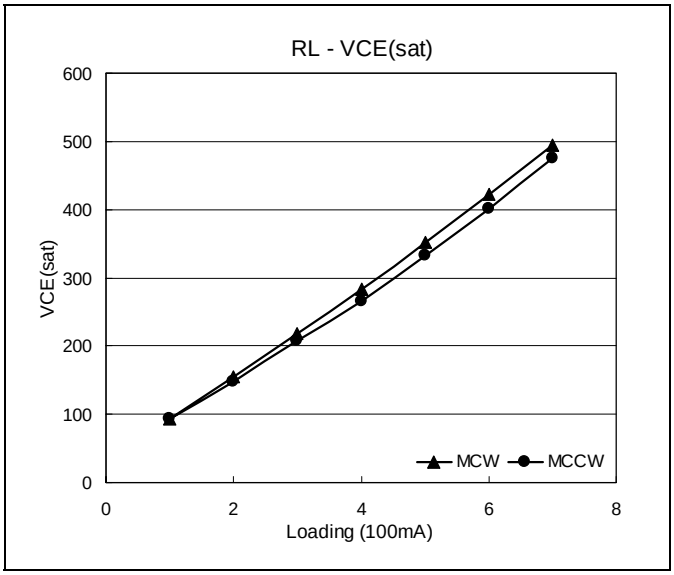




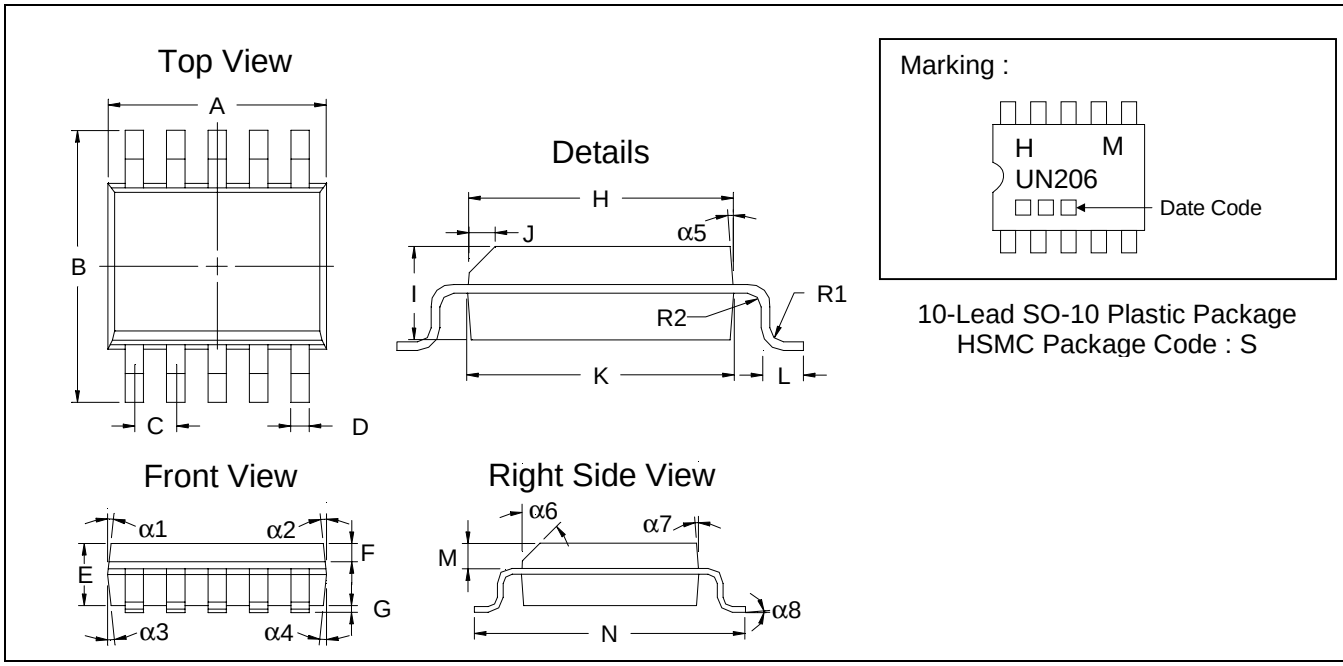








SO-10 Dimension



10-Lead SO-10 Plastic Package
HSMC Package Code : S

*:Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.188	0.192	4.775	4.877	L	0.020	0.026	0.508	0.660
B	0.230	0.242	5.842	6.147	M	0.024	0.028	0.610	0.711
C	0.034	0.038	0.864	0.965	N	0.230	0.242	5.842	6.147
D	0.014	0.018	0.356	0.457	α1	6°	8°	6°	8°
E	0.052	0.056	1.321	1.422	α2	6°	8°	6°	8°
F	0.014	0.018	0.356	0.457	α3	6°	8°	6°	8°
G	0.004	0.008	0.102	0.203	α4	6°	8°	6°	8°
H	0.148	0.152	3.759	3.861	α5	6°	8°	6°	8°
I	0.052	0.056	1.321	1.422	α6	44°	46°	44°	46°
J	0.014	0.018	0.356	0.457	α7	6°	8°	6°	8°
K	0.152	0.156	3.861	3.962	α8	3°	6°	3°	6°

Notes : 1.Dimension and tolerance based on our Spec. dated Aug. 01,1999.
2.Controlling dimension : millimeters.
3.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.
4.If there is any question with packing specification or packing method, please contact your local HSMC sales office.

Material :

- Lead : 42 Alloy ; solder plating
- Mold Compound : Epoxy resin family, flammability solid burning class:UL94V-0

Head Office And Factory :

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  Tel : 886-3-5983621~5 Fax : 886-3-5982931
- **Factory 2 :** No. 17-1, Ta-Tung Rd., Fu-Kou Hsin-Chu Industrial Park Hsin-Chu Taiwan. R.O.C
  Tel : 886-3-5977061 Fax : 886-3-5979220