



HMUN205

Low-Saturation Motor Driver for Low-Voltage Applications

Description

The HMUN205 is a low-saturation motor driver IC for use in low-voltage applications. The HMUN205 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



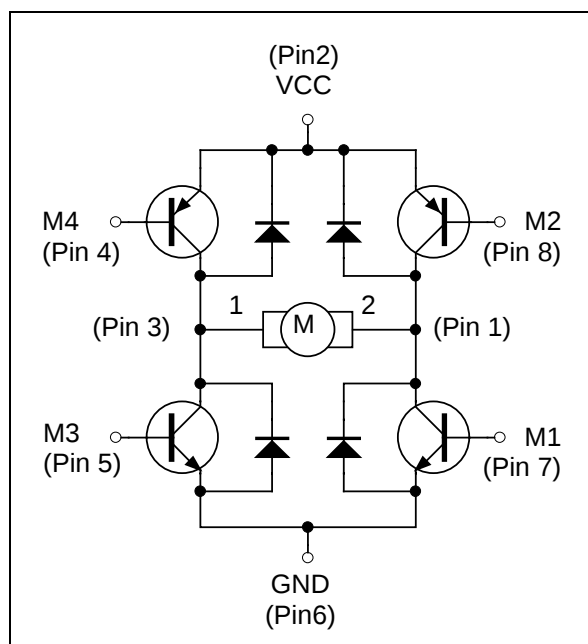
Characteristics (Ta=25°C *Pulse Test: Pulse Width ≤380us, Duty Cycle≤2%)

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

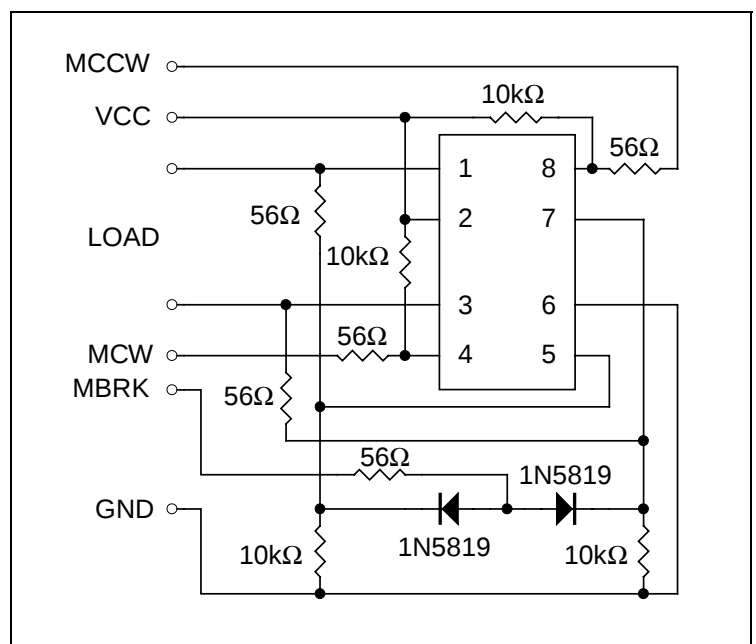
Pin Connections

	Pin1:MOT2	Pin5:M3
	Pin2:VCC	Pin6:GND
	Pin3:MOT1	Pin7:M1
	Pin4:M4	Pin8:M2

Equivalent Circuit

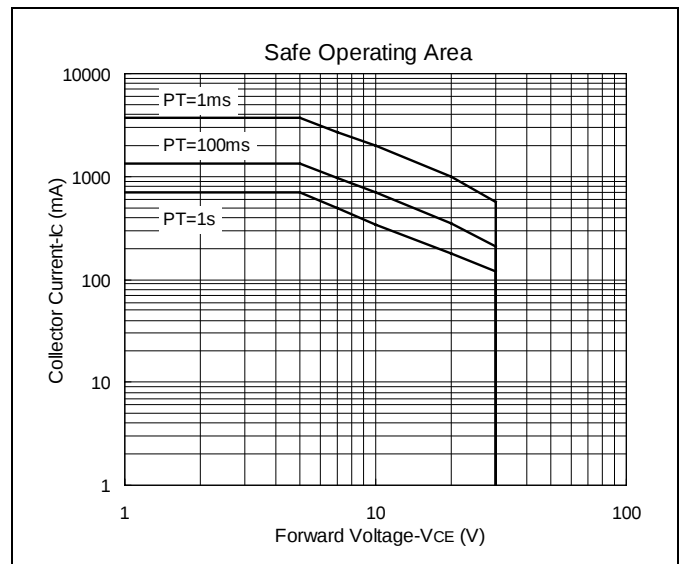
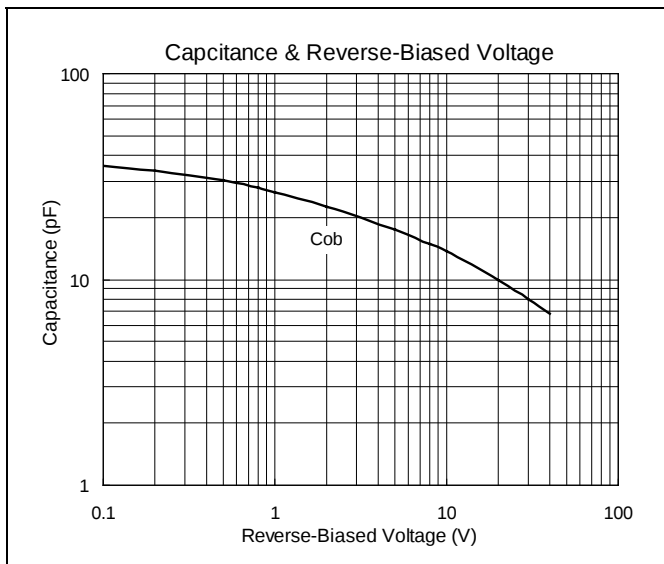
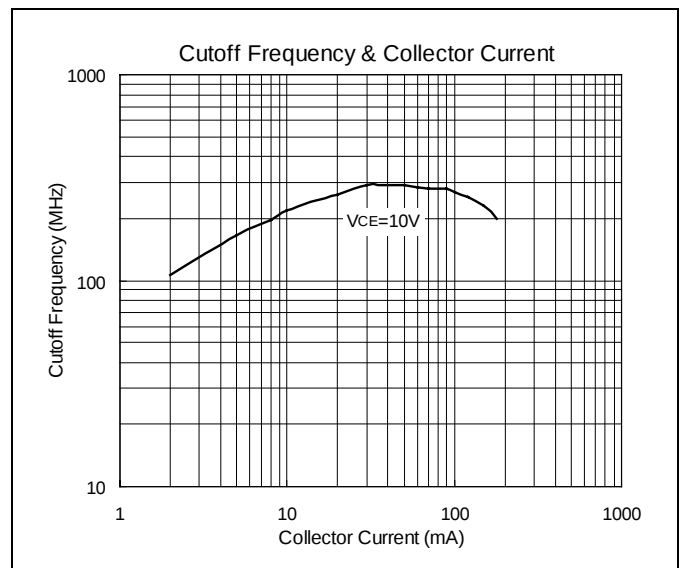
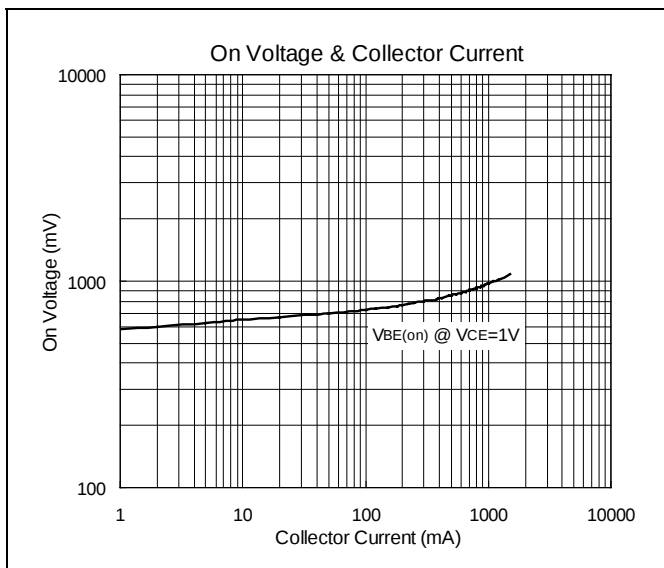
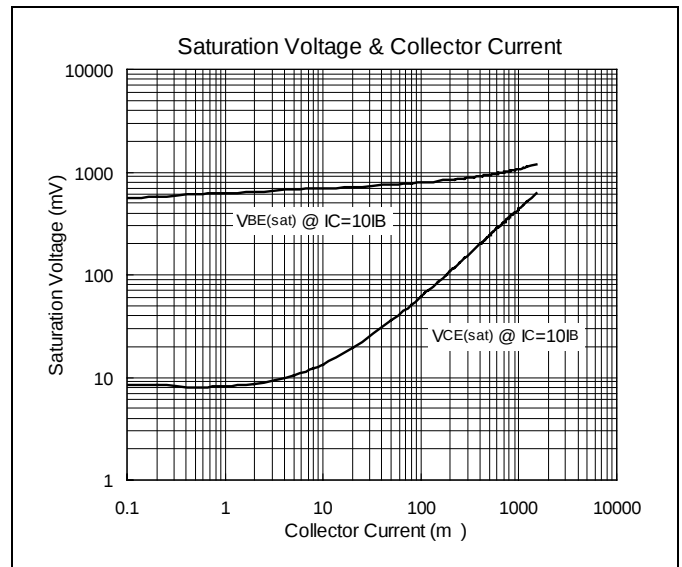
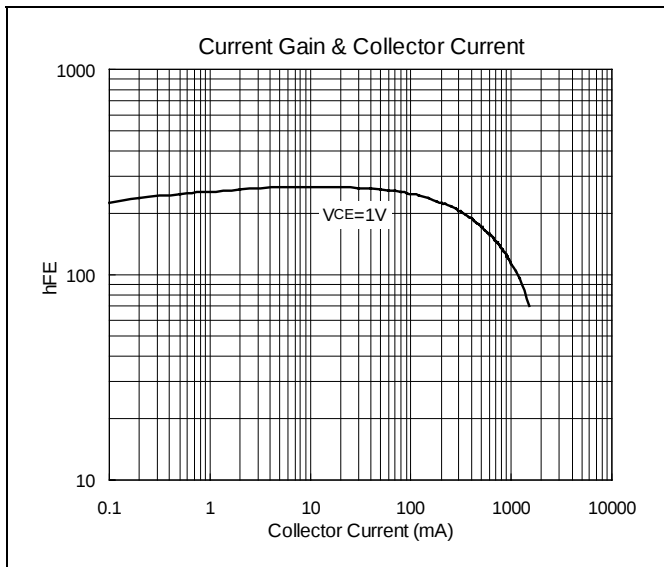


Application Circuit



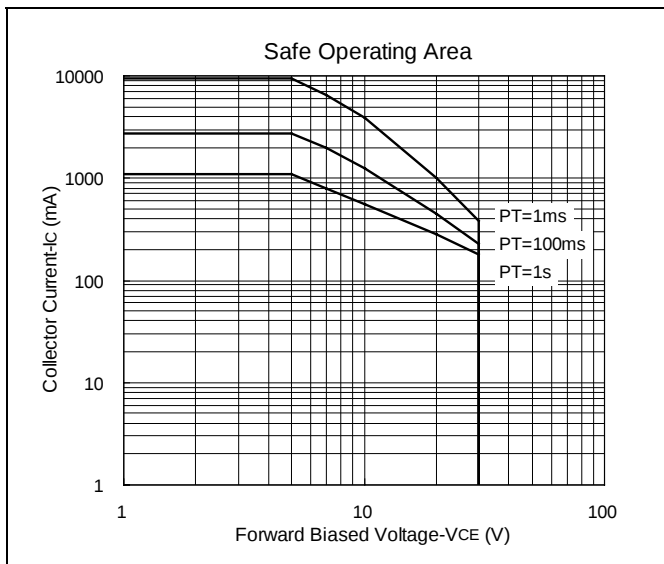
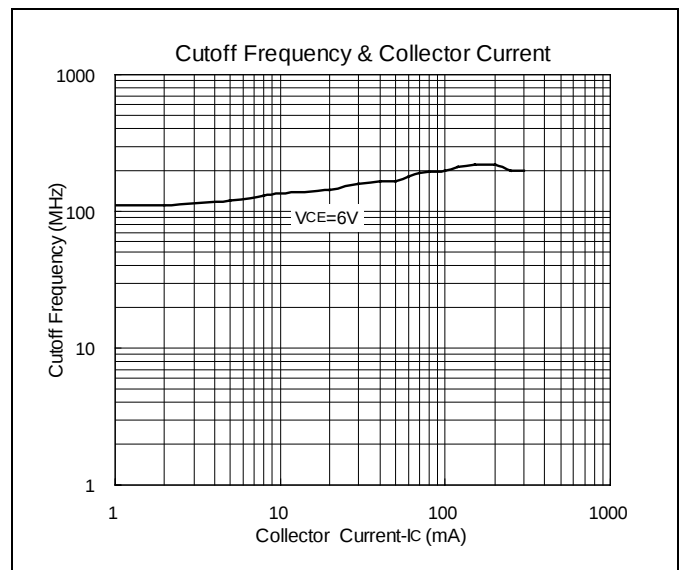
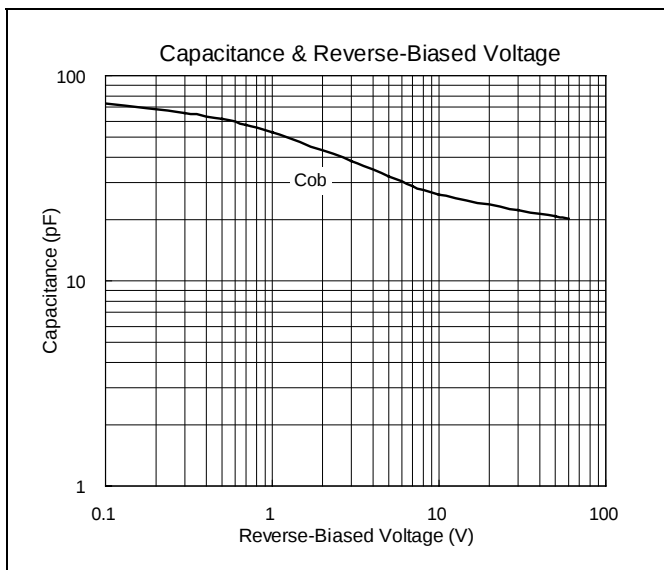
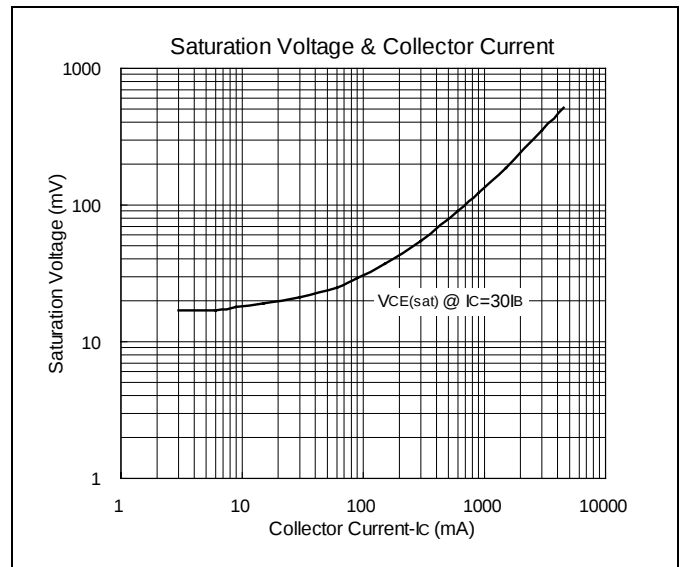
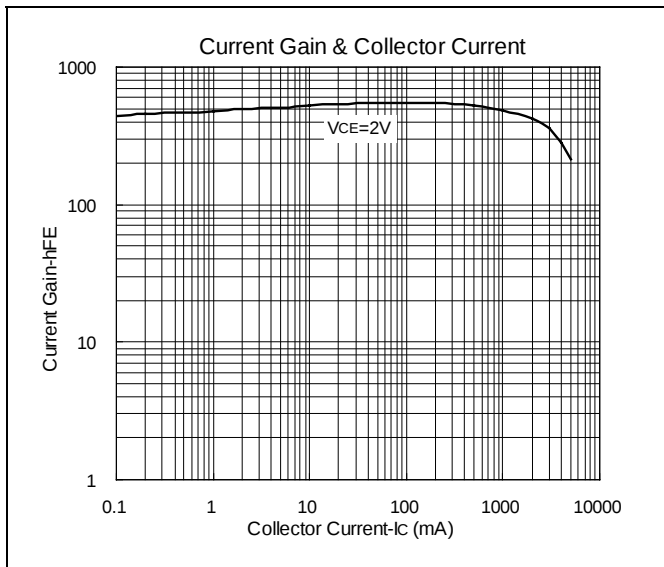


PNP Transistor Characteristics Curve



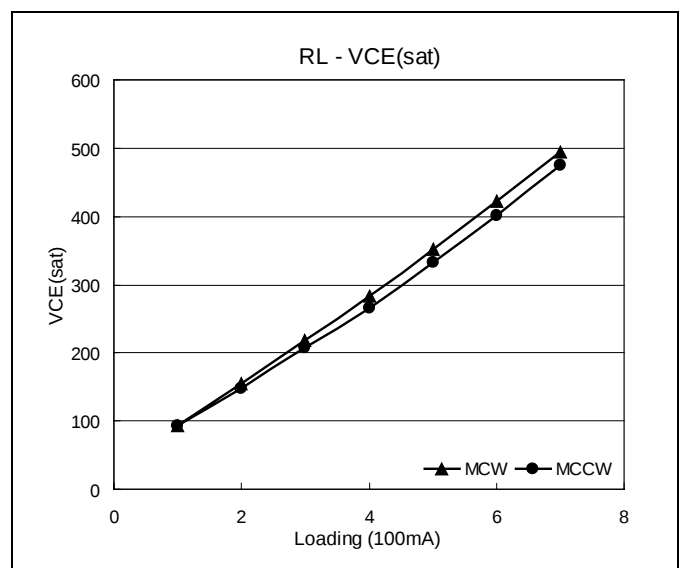
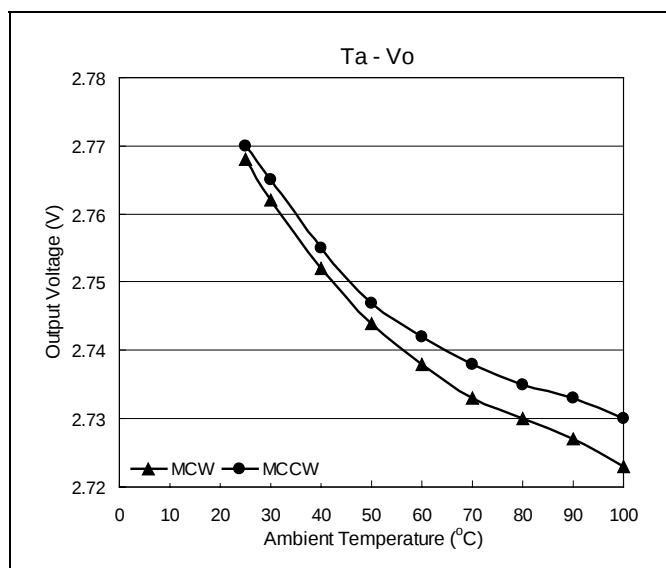
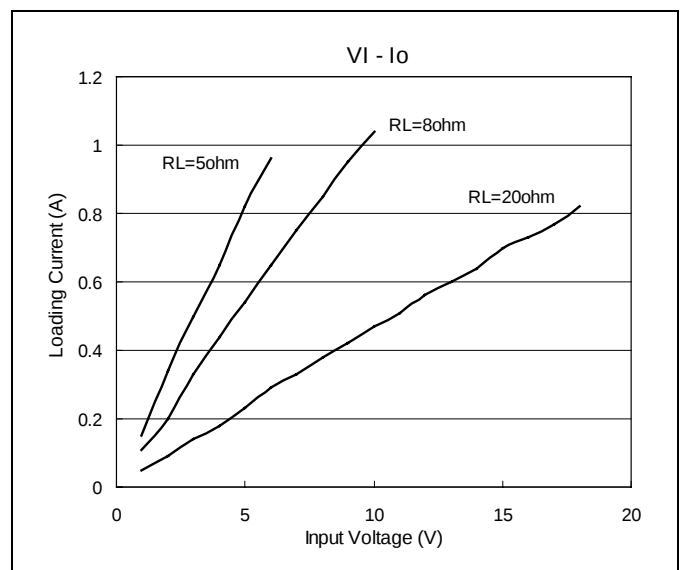
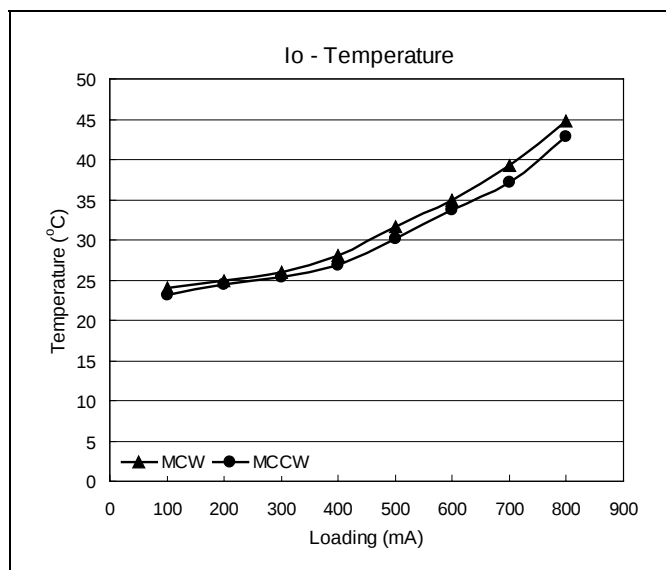
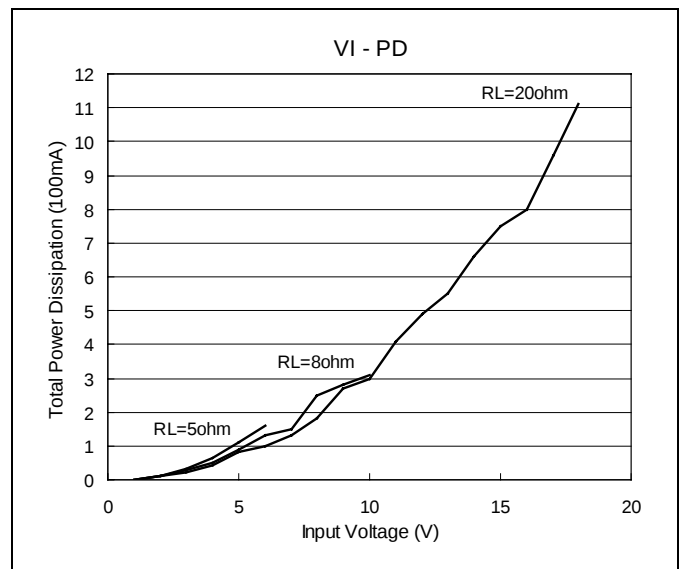
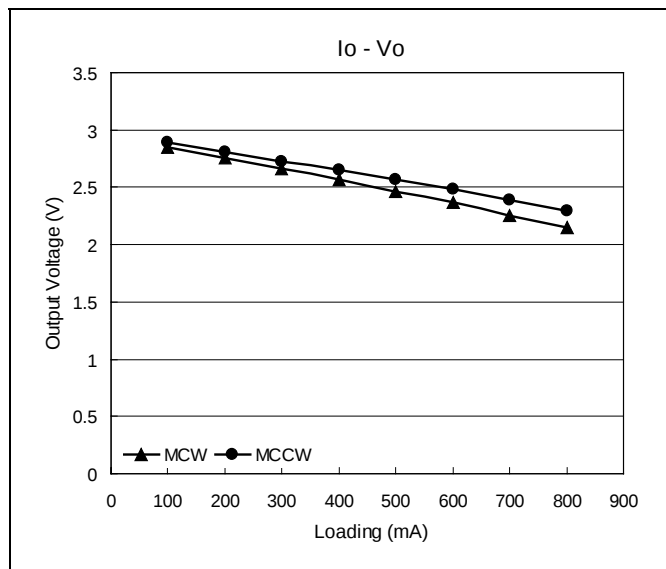


NPN Transistor Characteristics Curve



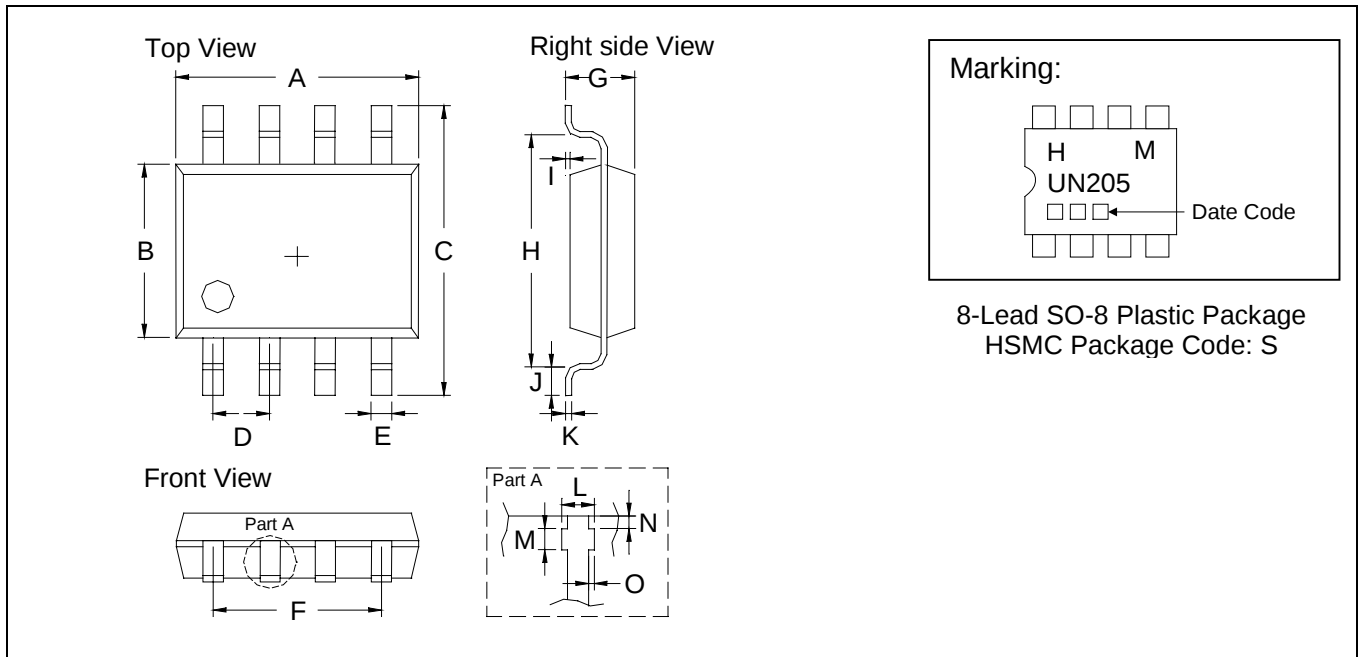


Application Characteristics Curve





SO-8 Dimension



*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1909	0.2007	4.85	5.10	I	0.0019	0.0078	0.05	0.20
B	0.1515	0.1555	3.85	3.95	J	0.0118	0.0275	0.30	0.70
C	0.2283	0.2441	5.80	6.20	K	0.0074	0.0098	0.19	0.25
D	0.0480	0.0519	1.22	1.32	L	0.0145	0.0204	0.37	0.52
E	0.0145	0.0185	0.37	0.47	M	0.0118	0.0197	0.30	0.50
F	0.1472	0.1527	3.74	3.88	N	0.0031	0.0051	0.08	0.13
G	0.0570	0.0649	1.45	1.65	O	0.0000	0.0059	0.00	0.15
H	0.1889	0.2007	4.80	5.10					

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

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