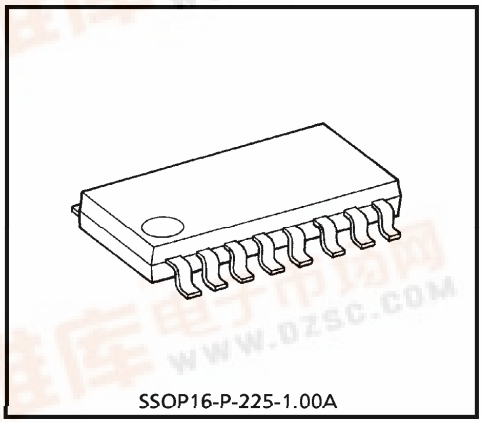
TENTATIVE TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA8303F

MOTOR DRIVER FOR CAMERA

TA8303F is Multi Chip IC incorporates 6 low saturation discrete transistors which equipped Bias resistor and Free-Wheeling diode.
This IC is suitable for a camera use motor drive applications.

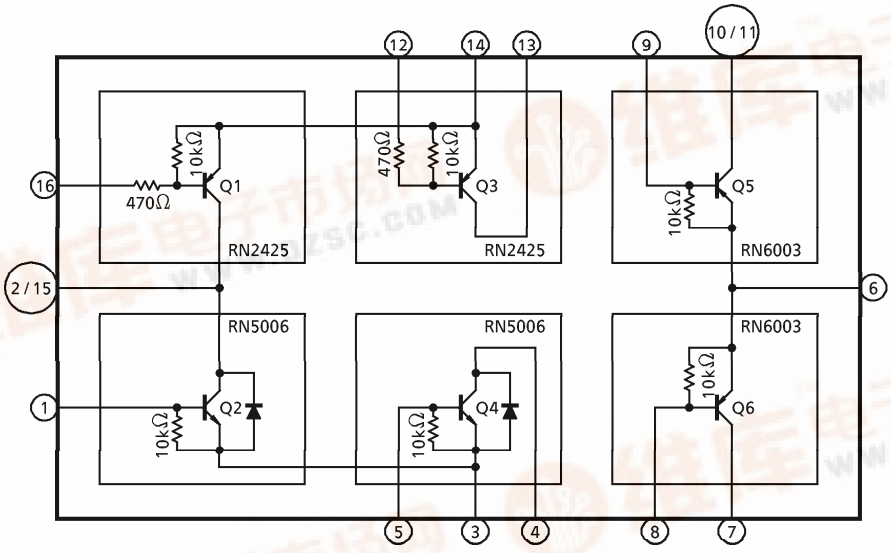


Weight : 0.14g (Typ.)

FEATURES

- Suitable for high efficiency motor drive circuit.
- Built-in Bias Resistor : R = 10kΩ
- Built-in Free-Wheeling Diode : Only lower side
- Small package sealed : SSOP16
- Low saturation voltage

BLOCK DIAGRAM



980910EBA2

FUNCTION DESCRIPTION ON EACH TERMINAL

PIN No.	FUNCTION	
1	Tr. Q2	Input Terminal
2	Tr. Q1, Q2	Output Terminal
3	Tr. Q2, Q4	GND
4	Tr. Q4	Output Terminal
5	Tr. Q4	Input Terminal
6	Tr. Q5, Q6	Supply Voltage
7	Tr. Q6	Output Terminal
8	Tr. Q6	Input Terminal
9	Tr. Q5	Input Terminal
10	Tr. Q5	Output Terminal
11	Tr. Q5	Output Terminal
12	Tr. Q3	Input Terminal
13	Tr. Q3	Output Terminal
14	Tr. Q1, Q3	Supply Voltage
15	Tr. Q1, Q2	Output Terminal
16	Tr. Q1	Input Terminal

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V_{CC}	7.0	V
Breakdown Voltage	V_{CBO}	7.0	V
	V_{CEO}	7.0	V
	V_{EBO}	5.0	V
Output Current	I_{OUT}	0.8	A
Base Current	I_B	0.4	A
Power Dissipation	P_D	490	mW
Junction Temperature	T_j	150	°C
Operating Temperature	T_{opr}	−20~60	°C
Storage Temperature	T_{stg}	−55~150	°C

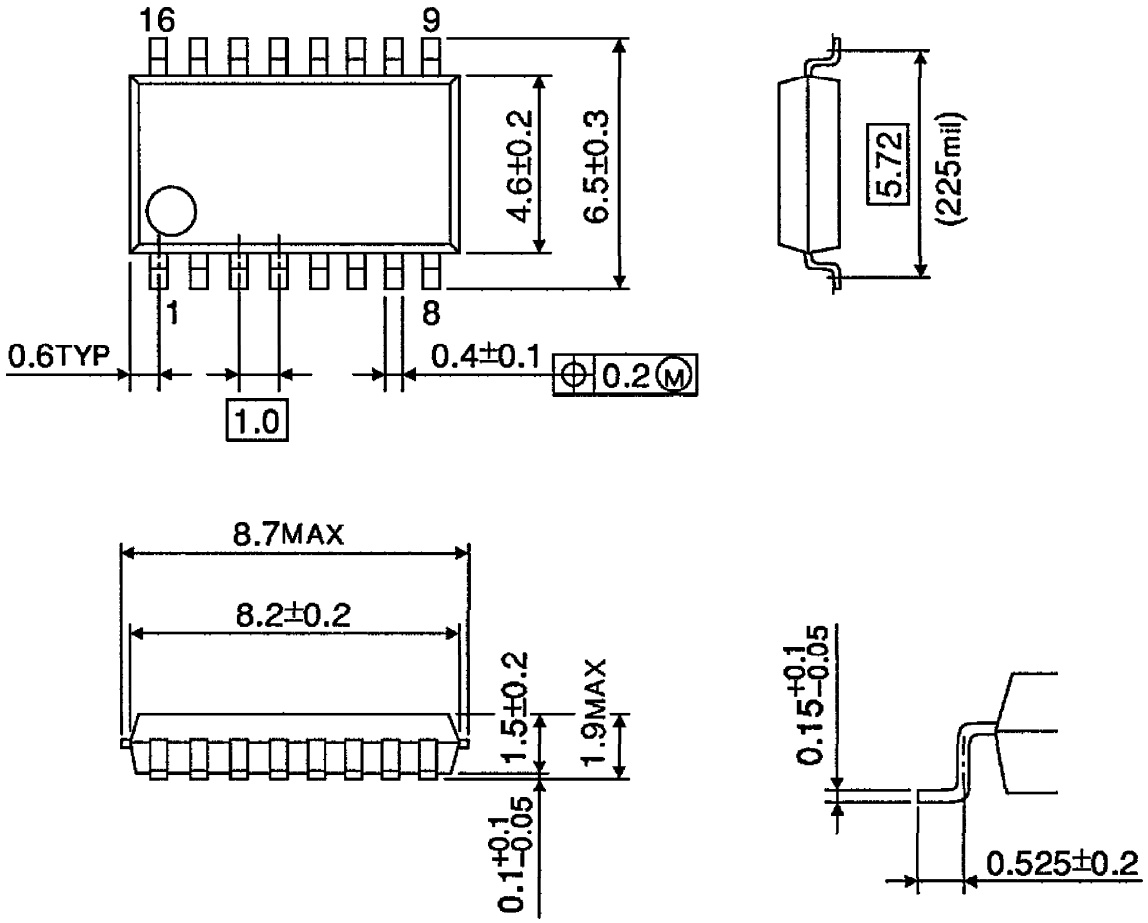
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	MEASURING Tr	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Current Gain	$h_{FE\ 1}$	RN6003	—	V_{CE} = −2V, I_C = −500mA	100	—	400	
	$h_{FE\ 2}$	RN2425	—	V_{CE} = −1V, I_C = −100mA	100	—	—	
	$h_{FE\ 3}$	RN5006	—	V_{CE} = 1V, I_C = 500mA	160	—	600	
Saturation Voltage	$V_{CE\ 1}$	RN6003	—	I_C = −500mA, I_B = −50mA	−0.5	—	—	V
	$V_{CE\ 2}$	RN2425	—	I_C = −50mA, I_B = −1mA	−0.25	—	—	V
	$V_{CE\ 3}$	RN5006	—	I_C = 600mA, I_B = 20mA	—	—	0.5	V
Leakage Current	I_{OFF}		—	V_{CC} = 7V	—	—	1.0	μA
Input Resistance	R_1	RN6003	—		7	10	13	kΩ
	R_2	RN2425	—		0.329	0.47	0.61	kΩ
Resistance Ratio	R′	RN2425	—		0.042	—	0.051	
Diode Forward Voltage	V_F	RN5006	—	I_F = 300mA	—	0.89	1.2	V
Transition Frequency	f_{T1}	RN6003	—	V_{CE} = −2V, I_C = −500mA	—	—	120	MHz
	f_{T2}	RN2425	—	V_{CE} = −5V, I_C = −100mA	—	—	200	MHz
	f_{T3}	RN5006	—	V_{CE} = 1V, I_C = 500mA	—	—	140	MHz

OUTLINE DRAWING

SSOP16-P-225-1.00A

Unit : mm



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