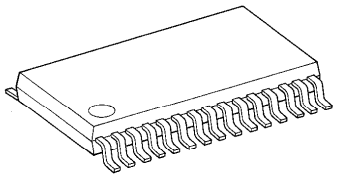
UNDER DEVELOPMENT

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT
SILICON MONOLITHIC

TA2122AFN

RF AMPLIFIER FOR DIGITAL SERVO CD SYSTEM

TA2122AFN is a 3-beam type PUH and 1-beam type PUH compatible RF Amplifier for Digital Servo to be used in the CD system.
In combination with a CMOS single chip processor TC9432AF, TC9462F and TC9495F, a CD system can be composed very simply.



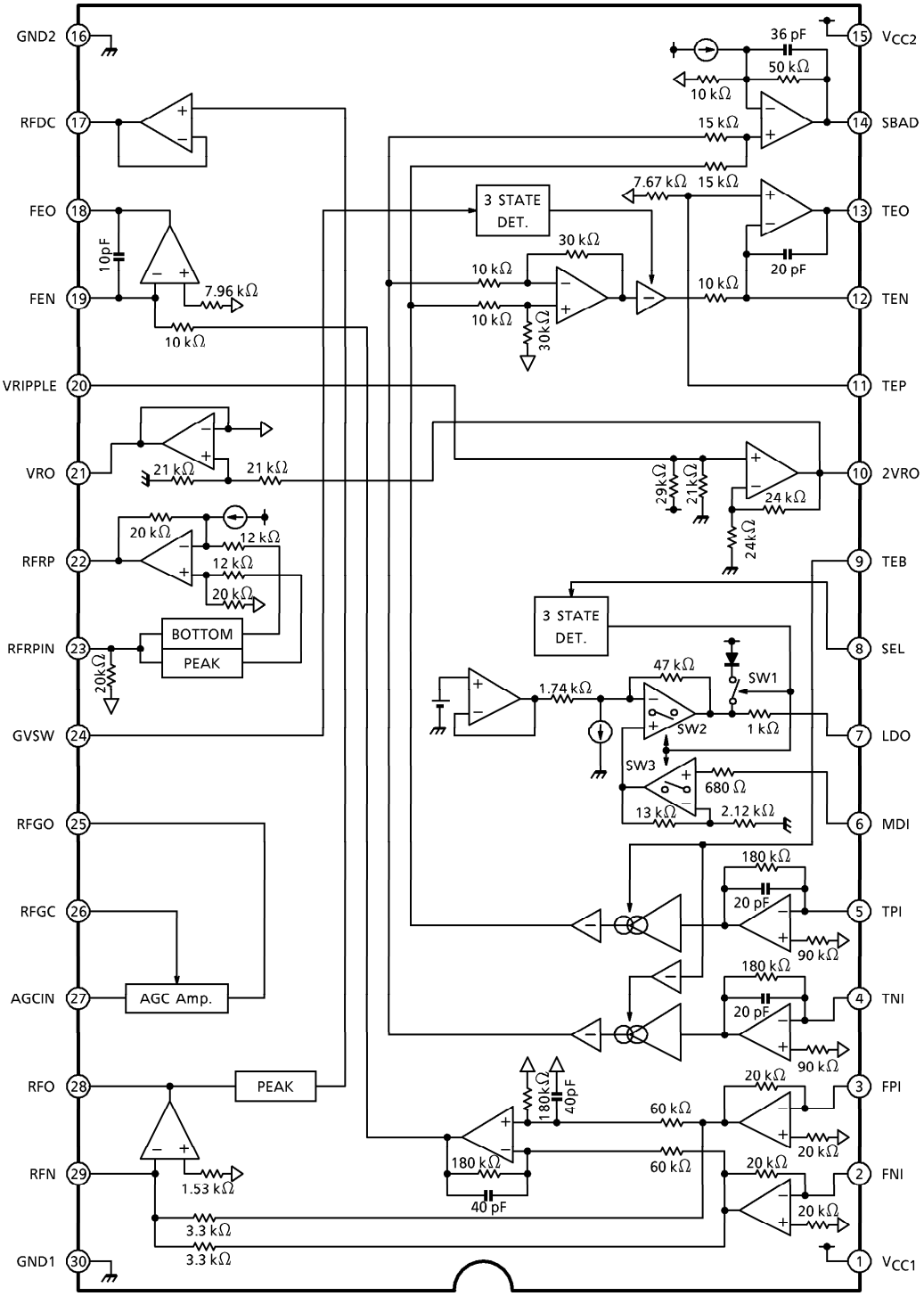
SSOP30-P-300-0.65

Weight : 0.17 g (Typ.)

FEATURES

- Built in amplifier for reference (V_{REF}, $2V_{REF}$) supply.
- Built in Auto Laser Power Control circuit.
- Built in RF amplifier.
- Built in focus error amp and tracking error amp.
- Built in sub-beam adder signal amplifier.
- Capable of tracking balance control with TC9432AF, TC9462F and TC9495F.
- Capable of RF gain adjustment circuit with TC9432AF, TC9462F and TC9495F.
- Built in signal amplifier for track counter.
- Capable of 4 times speed operation.
- 30 pin mini flat package.

BLOCK DIAGRAM



SEL	LDC		
	SW1	SW2	SW3
GND	ON	OFF	OFF
Hiz	OFF	ON	ON
V_{CC}	OFF	ON	ON

GVSW	TE GAIN
GND	– 3 dB
Hiz	0 dB
V_{CC}	+ 3 dB

PIN FUNCTION

PIN No.	SYMBOL	I / O	FUNCTIONAL DESCRIPTION	REMARK
1	V_{CC1}	—	Power supply input terminal	—
2	FNI	I	Main beam I-V amp input terminal	Connected to pin diode A, C
3	FPI	I	Main beam I-V amp input terminal	Connected to pin diode B, D
4	TNI	I	Sub beam I-V amp input terminal	Connected to pin diode E
5	TPI	I	Sub beam I-V amp input terminal	Connected to pin diode F
6	MDI	I	Monitor photo diode amp input terminal	Connected to monitor photo diode
7	LDO	O	Laser diode amp output terminal	Connected to laser control circuit
8	SEL	I	Laser diode control signal input terminal and APC circuit ON / OFF control signal input terminal	3 signal input (V_{CC}, Hiz, GND)
9	TEB	I	Tracking error balance adjustment signal input terminal Controlled by 3 PWM signal (PWM carrier = 88.2 kHz)	3 signal input (2VR, VR, GND)
10	2VRO	O	Reference voltage (2VR) output terminal 2VR = 4.2 V when V_{CC} = 5 V	—
11	TEP	I	TE amp positive input terminal	—
12	TEN	I	TE amp negative input terminal	Connected to TEO through feedback register
13	TEO	O	TE error signal output terminal	—
14	SBAD	O	Sub beam adder signal output terminal	—
15	V_{CC2}	—	Power supply input terminal	—
16	GND2	—	Ground terminal	—
17	RFDC	O	RF signal peak detect output terminal	—
18	FEO	O	Focus error signal output terminal	—
19	FEN	I	FE amp negative input terminal	Connected to FEO through feedback register
20	VRIPPLE	O	Reference voltage (2VR) filter capacitor connecting terminal	—
21	VRO	O	Reference voltage (VR) output terminal VR = 2.1 V when V_{CC} = 5 V	—
22	RFRP	O	Track count signal output terminal	—
23	RFIS	I	RFRP detect circuit input terminal	Connected to RFO through condenser
24	GVSW	I	TE amp gain control signal input terminal	3 signal input (V_{CC}, Hiz, GND)
25	RFGO	O	RF gain signal output terminal	—
26	RFGC	I	RF amplitude adjustment control signal input terminal Controlled by 3 PWM signal (PWM carrier = 88.2 kHz)	Input range : VR ± 2.1 V
27	AGCI	I	RF signal amplitude adjustment amp input terminal	Connected to RFO through condenser
28	RFO	O	RF signal output terminal	—
29	RFN	I	RF amp negative input terminal	—
30	GND1	—	Ground terminal	—

PACKAGE DIMENSIONS

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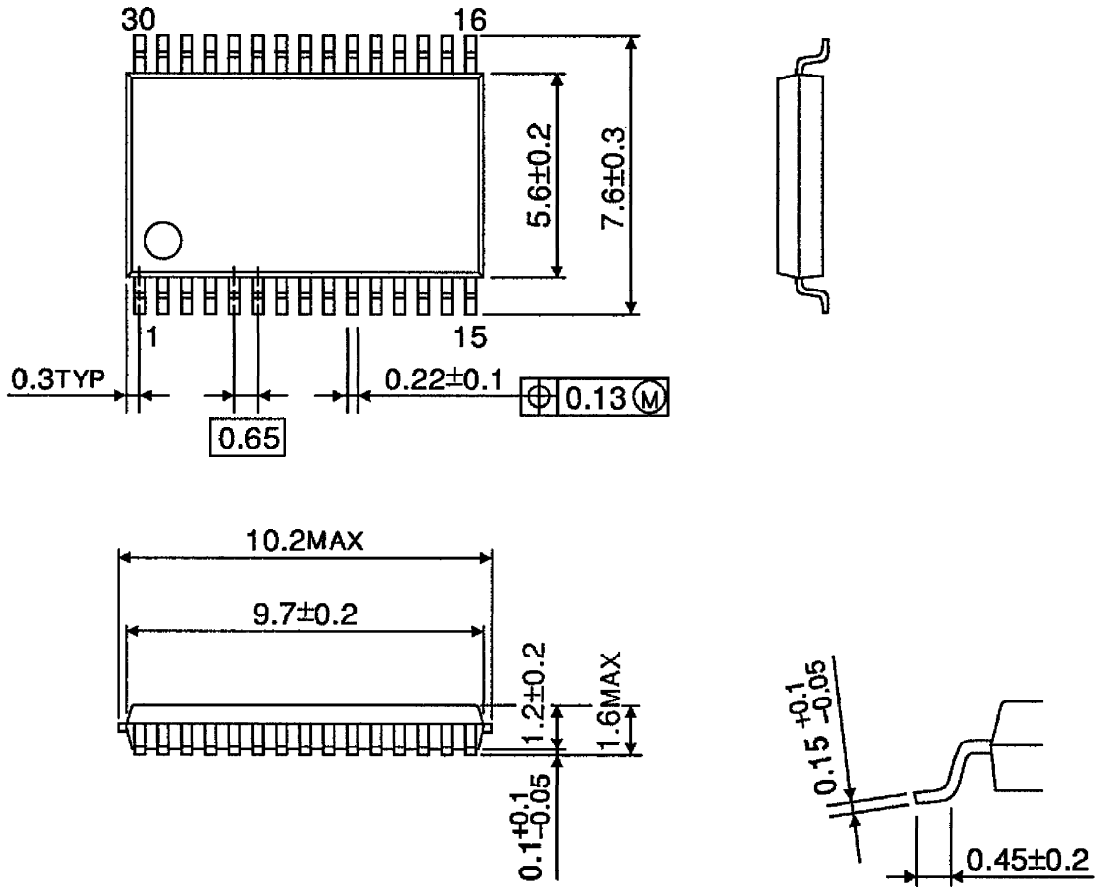
Unit : mm



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