TOSHIBA

Unit in mm

 $^{+0.2}_{2.8-0.3}$ +0.2 1.6-0.1

## TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

## **HN3C01F**

TV TUNER, VHF CONVERTER APPLICATION. TV VHF RF AMPLIFIER APPLICATION.

Including Two Devices in SM6 (Super Mini Type with 6Leads)

Low Reverse Transfer Capacitance :  $C_{re} = 0.38pF$  (Typ.) High Transition Frequency :  $f_T = 1400 MHz (Typ.)$ 

MAXIMUM RATINGS (Ta =  $25^{\circ}$ C) (Q<sub>1</sub>, Q<sub>2</sub>)

CHARACTERISTIC	SYMBOL	RATING	UNIT	
Collector-Base Voltage	V <sub>CBO</sub>	30	V	
Collector-Emitter Voltage	VCEO	20	V	
Emitter-Base Voltage	$V_{EBO}$	3	V	
Collector Current	$I_{\mathbf{C}}$	50	mA	
Base Current	IB	25	mA	
Collector Power Dissipation	PC*	300	mW	
Junction Temperature	$T_j$	125	°C	
Storage Temperature Range	$T_{ m stg}$	-55~125	°C	

0.95  $1.9\pm0.2$ 2 COLLECTOR 1 (C1) 5 (E1) } EMITTER 1 COLLECTOR 2 (C2) EMITTER 2 (E2)5. BASE 2 (B2)BASE 1 (B1) **JEDEC EIAJ** TOSHIBA 2-3N1B

Total

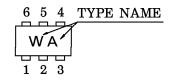
ELECTRICAL CHARACTERISTICS (Ta =  $25^{\circ}$ C) (Q<sub>1</sub>, Q<sub>2</sub>)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	ICBO	$V_{CB} = 25V, I_{E} = 0$	_	_	0.1	$\mu$ A
Emitter Cut-off Current	IEBO	$V_{EB}=3V, I_{C}=0$	_	_	1.0	$\mu$ A
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	$I_{C}=1mA, I_{B}=0$	20	_		V
DC Current Gain	${ t h_{FE}}$	$V_{CE}=10V, I_{C}=5mA$	40	150	300	_
Transition Frequency	$ m f_{T}$	$V_{\text{CE}} = 10\text{V}, I_{\text{C}} = 5\text{mA}, \\ f = 200\text{MHz}$	900	1400	_	MHz
Reverse Transfer Capacitance Q <sub>1</sub>	C <sub>re (1)</sub>	$V_{CB} = 10V, I_{E} = 0, f = 1MHz$		0.38	0.53	рF
Reverse Transfer Capacitance Q2	$C_{re(2)}$	$V_{CB} = 10V, I_{E} = 0, f = 1MHz$	_	0.31	0.46	рF
Collector-Base Time Constant Q1	C <sub>c</sub> ·r <sub>bb</sub> ' (1)	$V_{CB}$ =10V, $I_{C}$ =5mA, $f$ =30MHz	_	6.0	12	ps
Collector-Base Time Constant Q2	C <sub>c</sub> ·r <sub>bb</sub> ' (2)	$egin{array}{l} V_{\mathrm{CB}} = 10\mathrm{V}, \ \mathrm{I_{\mathrm{C}}} = 5\mathrm{mA}, \\ \mathrm{f} = 30\mathrm{MHz} \end{array}$	_	5.5	11.5	ps

PIN ASSIGNMENT (TOP VIEW)

**MARKING** 





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