TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

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AUDIO FREQUENCY AMPLIFIER APPLICATIONS.

DRIVER STAGE FOR LED LAMP APPLICATIONS.

TEMPERATURE COMPENSATION APPLICATIONS.

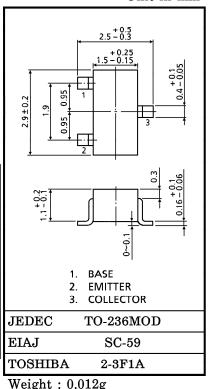
• High hrg. h_{FE} (1)=5000 (Min.) (IC=10mA)

 $h_{FE}(2) = 10000 \text{ (Min.)} (IC = 100 \text{mA})$

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	v_{CBO}	40	V
Collector-Emitter Voltage	v_{CEO}	40	V
Emitter-Base Voltage	$V_{ m EBO}$	10	V
Collector Current	$I_{\mathbf{C}}$	300	mA
Base Current	$I_{\mathbf{B}}$	60	mA
Collector Power Dissipation	PC	150	mW
Junction Temperature	T_{j}	125	°C
Storage Temperature Range	$\mathrm{T_{stg}}$	-55~125	°C

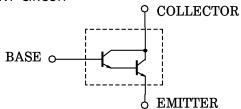
Unit in mm

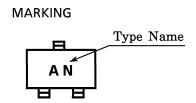


ELECTRICAL CHARACTERISTICS (Ta = 25°C)

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CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I _{CBO}	$V_{\mathrm{CB}} = 40 \mathrm{V}, \; \mathrm{I_E} = 0$			0.1	μ A
Emitter Cut-off Current	I_{EBO}	$V_{EB}=8V, I_{C}=0$	_	-	0.1	μ A
DC Current Gain $\begin{array}{c} h_{FE}(1) \\ \\ h_{FE}(2) \end{array}$	hFE (1)	$V_{\rm CE}$ =5V, $I_{\rm C}$ =10mA	5000	_	_	
	h _{FE} (2)	$V_{ m CE}$ = 2V, $I_{ m C}$ = 100mA	10000	_	_	
Collector-Emitter Saturation Voltage	V _{CE} (sat)	$I_{\rm C}\!=\!300{ m mA},~I_{\rm B}\!=\!0.3{ m mA}$	_	0.9	1.3	V
Base-Emitter Voltage	Vre	V _{CR} =2V, I _C =100mA		1.25	1.6	V

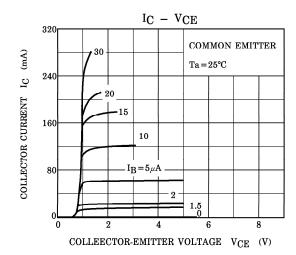
EQUIVALENT CIRCUIT

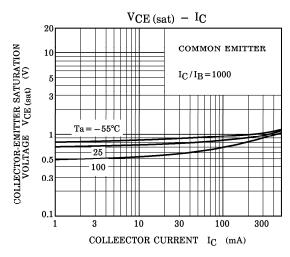


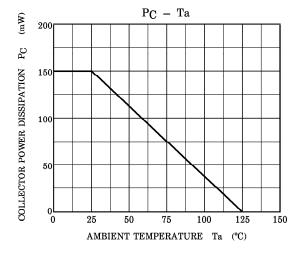


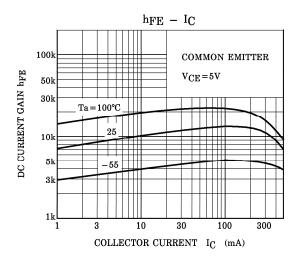
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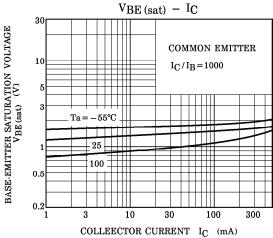
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