Silicon NPN Power Transistors TIP33/33A/33B/33C

DESCRIPTION

- With TO-3PN package
- Complement to type TIP34/34A/34B/34C
- DC current gain h_{FE}=40(Min)@I_C=1.0A

APPLICATIONS

- Designed for use in general purpose power amplifier and switching applications.

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

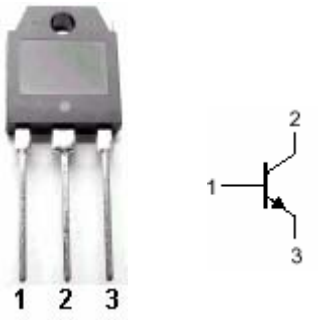


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings(Ta=℃)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	TIP33	Open emitter	40	V
		TIP33A		60	
		TIP33B		80	
		TIP33C		100	
V_{CEO}	Collector-emitter voltage	TIP33	Open base	40	V
		TIP33A		60	
		TIP33B		80	
		TIP33C		100	
V_{EBO}	Emitter-base voltage		Open collector	5	V
I_C	Collector current			10	A
I_{CM}	Collector current-peak			15	A
I_B	Base current			3	A
P_C	Collector power dissipation		T_C=25℃	80	W
T_j	Junction temperature			150	℃
T_{stg}	Storage temperature			-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal resistance junction to case	1.56	℃/W

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CHARACTERISTICS

Tj=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V_{CEO}	Collector-emitter sustaining voltage	TIP33	I_C=30mA ;I_B=0	40			V
		TIP33A		60			
		TIP33B		80			
		TIP33C		100			
$V_{CEsat-1}$	Collector-emitter saturation voltage		I_C=3A ;I_B=0.3A			1.0	V
$V_{CEsat-2}$	Collector-emitter saturation voltage		I_C=10A; I_B=2.5A			4.0	V
V_{BE-1}	Base-emitter on voltage		I_C=3A ; V_{CE}=4V			1.6	V
V_{BE-2}	Base-emitter on voltage		I_C=10A ; V_{CE}=4V			3.0	V
I_{CEO}	Collector cut-off current	TIP33/33A	V_{CE}=30V; I_B=0			0.7	mA
		TIP33B/33C	V_{CE}=60V; I_B=0				
I_{CES}	Collector cut-off current	TIP33	V_{CE}=40V;V_{EB}=0			0.4	mA
		TIP33A	V_{CE}=60V;V_{EB}=0				
		TIP33B	V_{CE}=80V;V_{EB}=0				
		TIP33C	V_{CE}=100V;V_{EB}=0				
I_{EBO}	Emitter cut-off current		V_{EB}=5V; I_C=0			1.0	mA
h_{FE-1}	DC current gain		I_C=1A ; V_{CE}=4V	40			
h_{FE-2}	DC current gain		I_C=3A ; V_{CE}=4V	20		100	
f_T	Transition frequency		I_C=0.5A ; V_{CE}=10V;f=1MHz	3.0			MHz

PACKAGE OUTLINE

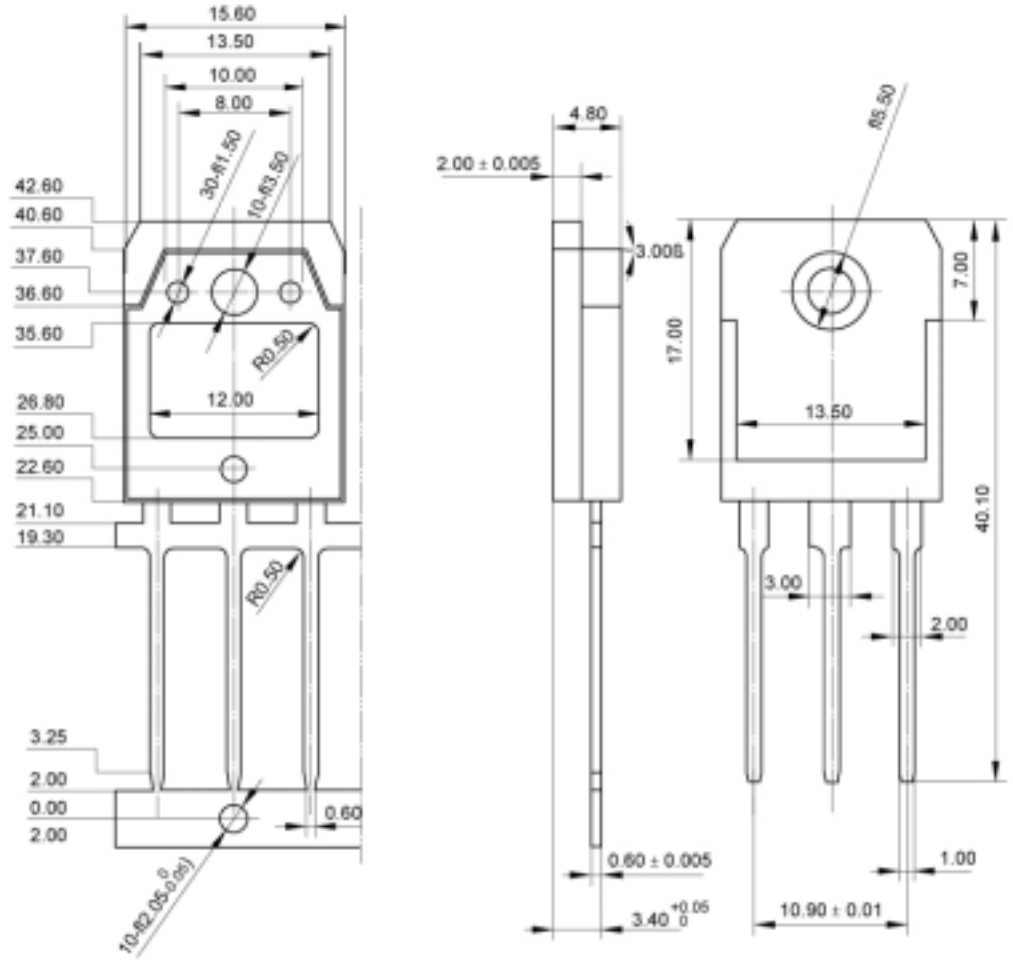


Fig.2 outline dimensions (unindicated tolerance:±0.1mm)