HIGH POWER TRANSISTORS

TIP33, A, B, C NPN
TIP34, A, B, C PNP

TO- 3P Non Isolated Plastic Package

Pin Configuration

Pin 1 : Base
Pin 2 : Collector
Pin 3 : Emitter

For General Purpose Power Amplifier and Switching Applications.

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	TIP33 / TIP34	TIP33A / TIP34A	TIP33B / TIP34B	TIP33C / TIP34C	UNIT
Collector Emitter Voltage	V_{CEO}	40	60	80	100	V
Collector Base Voltage	V_{CBO}	40	60	80	100	V
Emitter Base Voltage	V_{EBO}	5.0				V
Collector Current Continuous	I_C	10				A
Collector Current Peak	*I_{CM}	15				A
Base Current Continuous	I_B	3.0				A
Total Power Dissipation at Tc=25ºC Derate Above 25ºC	P_D	80 0.64				W W/ºC
Operating and Storage Junction Temperature Range	T_j, T_{stg}	- 65 to +150				ºC

***Pulse test: Pulse width = 10ms , Duty cycle ≤10%**

THERMAL CHARACTERISTICS

Thermal Resistance, Junction to Case	$R_{th\ (j-c)}$	1.56	ºC/W
junction to Free Air Thermal Resistance	$R_{th\ (j-a)}$	35.7	ºC/W

ELECTRICAL CHARACTERISTICS (T_c=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Emitter Sustaining Voltage	**$V_{CEO\ (sus)}$	I_C=30mA, I_B=0				
		TIP33/TIP34	40			V
		TIP33A/TIP34A	60			V
		TIP33B/TIP34B	80			V
		TIP33C/TIP34C	100			V
Collector Emitter Cut Off Current	I_{CEO}	V_{CE}=30V, I_B=0				
		TIP33/A, TIP34/A			0.7	mA
		V_{CE}=60V, I_B=0				
		TIP33B/C, TIP34B/C			0.7	mA
Collector Emitter Cut Off Current	I_{CES}	V_{CE}=Rated V_{CEO}, V_{EB}=0			0.4	mA
Emitter Base Cut Off Current	I_{EBO}	V_{EB}=5V, I_C=0			1.0	mA
DC Current Gain	**h_{FE}	I_C=1A, V_{CE}=4V	40			
		I_C=3A, V_{CE}=4V	20		100	
Collector Emitter Saturation Voltage	**$V_{CE\ (sat)}$	I_C=3A, I_B=0.3A			1.0	V
		I_C=10A, I_B=2.5A			4.0	V
Base Emitter On Voltage	**$V_{BE\ (on)}$	I_C=3A, V_{CE}=4V			1.6	V
		I_C=10A, V_{CE}=4V			3.0	V

****Pulse test: Pulse width 300µs, Duty cycle ≤2%**

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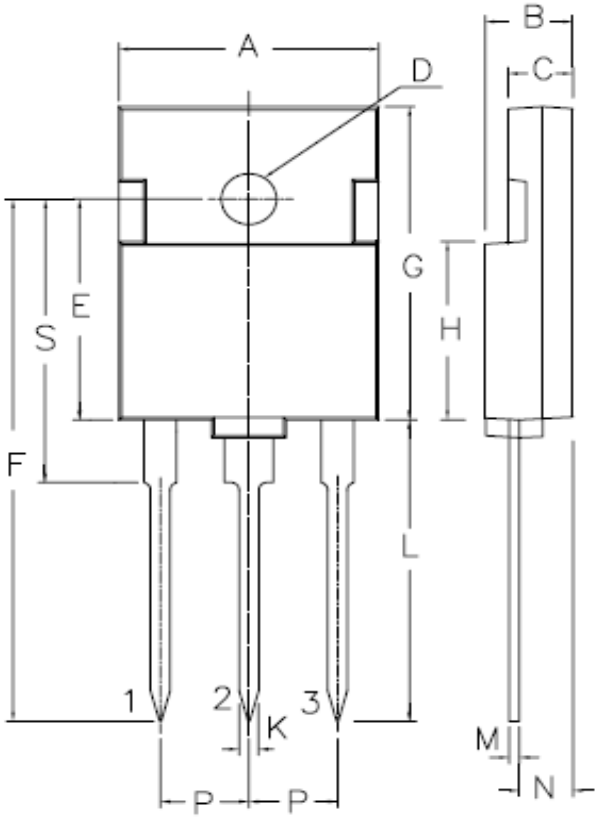
ELECTRICAL CHARACTERISTICS (T_c=25ºC unless specified otherwise)

DYNAMIC CHARACTERIS

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Small Signal Current Gain	h_{fe}	I_C=0.5A, V_{CE}=10V, f=1kHz	20			
Current Gain Bandwidth Product	***f_T	I_C=0.5A, V_{CE}=10V, f=1MHz	3.0			MHz

*****f_T=$|h_{fe}|$ f_{test}**

TO-3P Package Outline and Dimension



DIM	MIN.	MAX.
A	15.8	16.4
B	5.2	5.7
C	3.8	4.2
D	ø3.3	ø3.6
E	14.50	15.10
F	33.25	36.75
G	20.75	21.25
H	11.50	12.25
K	1.0	1.30
L	18.75	21.65
M	0.40	0.60
N	3.15	3.45
P	5.21	5.72
S	18.75	19.25

PIN CONFIGURATION
1. BASE
2. COLLECTOR
3. EMITTER

Component Disposal Instructions

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.

2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

Disclaimer

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