

TIP33 TIP33A TIP33B TIP33C NPN
 TIP34 TIP34A TIP34B TIP34C PNP

**COMPLEMENTARY
 SILICON POWER TRANSISTORS**



TO-218 TRANSISTOR CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR TIP33 and TIP34 series devices are complementary silicon high power transistors manufactured by the epitaxial base process, designed for general purpose amplifier and switching applications.

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: ($T_C=25^\circ\text{C}$)

Collector-Base Voltage
 Collector-Emitter Voltage
 Emitter-Base Voltage
 Continuous Collector Current
 Peak Collector Current
 Continuous Base Current
 Power Dissipation ($T_A=25^\circ\text{C}$)
 Power Dissipation
 Operating and Storage Junction Temperature
 Thermal Resistance
 Thermal Resistance

SYMBOL	TIP33	TIP33A	TIP33B	TIP33C	UNITS
	TIP34	TIP34A	TIP34B	TIP34C	
V_{CBO}	40	60	80	100	V
V_{CEO}	40	60	80	100	V
V_{EBO}			5.0		V
I_C			10		A
I_{CM}			15		A
I_B			3.0		A
P_D			3.5		W
P_D			80		W
T_J, T_{stg}			-65 to +150		$^\circ\text{C}$
θ_{JA}			35.7		$^\circ\text{C/W}$
θ_{JC}			1.56		$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_C=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CEO}	$V_{CE}=30\text{V}$ (TIP33, TIP33A, TIP34, TIP34A)		0.7	mA
I_{CEO}	$V_{CE}=60\text{V}$ (TIP33B, TIP33C, TIP34B, TIP34C)		0.7	mA
I_{CES}	$V_{CE}=\text{Rated } V_{CEO}$		0.4	mA
I_{EBO}	$V_{EB}=5.0\text{V}$		1.0	mA
BV_{CEO}	$I_C=30\text{mA}$ (TIP33, TIP34)	40		V
BV_{CEO}	$I_C=30\text{mA}$ (TIP33A, TIP34A)	60		V
BV_{CEO}	$I_C=30\text{mA}$ (TIP33B, TIP34B)	80		V
BV_{CEO}	$I_C=30\text{mA}$ (TIP33C, TIP34C)	100		V
$V_{CE(SAT)}$	$I_C=3.0\text{A}, I_B=0.3\text{A}$		1.0	V
$V_{CE(SAT)}$	$I_C=10\text{A}, I_B=2.5\text{A}$		4.0	V
$V_{BE(ON)}$	$V_{CE}=4.0\text{V}, I_C=3.0\text{A}$		1.6	V
$V_{BE(ON)}$	$V_{CE}=4.0\text{V}, I_C=10\text{A}$		3.0	V
h_{FE}	$V_{CE}=4.0\text{V}, I_C=1.0\text{A}$	40		
h_{FE}	$V_{CE}=4.0\text{V}, I_C=3.0\text{A}$	20	100	
h_{fe}	$V_{CE}=10\text{V}, I_C=0.5\text{A}, f=1.0\text{kHz}$	20		
f_T	$V_{CE}=10\text{V}, I_C=0.5\text{A}, f=1.0\text{MHz}$	3.0		MHz

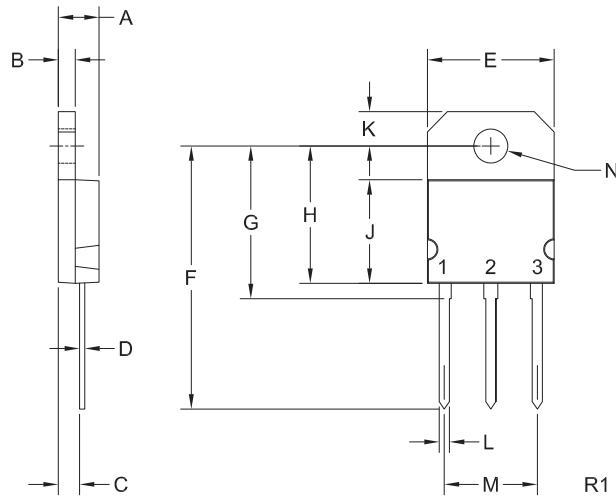
R1 (18-July 2013)

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TO-218 TRANSISTOR CASE - MECHANICAL OUTLINE



LEAD CODE:
 1) Base
 2) Collector
 3) Emitter
 Tab) Collector

MARKING:
FULL PART NUMBER

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.185	0.193	4.70	4.90
B	0.047	0.082	1.20	2.08
C	0.098		2.49	
D	0.019	0.030	0.48	0.76
E	0.578	0.598	14.68	15.19
F	1.220		30.99	
G	0.708		17.98	
H	-	0.637	-	16.18
J	-	0.480	-	12.19
K	0.155	0.163	3.94	4.14
L	0.043	0.051	1.09	1.30
M	0.425	0.437	10.80	11.10
N	0.157	0.161	3.99	4.09

TO-218 Transistor (REV: R1)

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