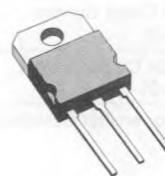


POWER AMPLIFIER AND SWITCHING APPLICATIONS

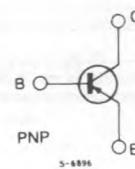
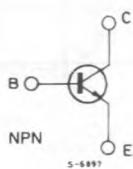
ADVANCE DATA

DESCRIPTION

The TIP35/TIP35A/TIP35B/TIP35C are silicon epitaxial-base NPN transistors in SOT-93 plastic package. They are intended for power amplifier and switching applications. The complementary PNP types are the TIP36/TIP36A/TIP36B/TIP36C.



TO-218

INTERNAL SCHEMATIC DIAGRAMS

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	PNP* NPN	Value				Unit
			TIP36 TIP35	TIP36A TIP35A	TIP36B TIP35B	TIP36C TIP35C	
V_{CEO}	Collector-emitter Voltage ($I_B = 0$)		40	60	80	100	V
V_{CBO}	Collector-base Voltage ($I_E = 0$)		40	60	80	100	V
V_{EBO}	Emitter-base Voltage ($I_C = 0$)				5		V
I_C	Collector Current				25		A
I_{CM}	Collector Peak Current				50		A
I_B	Base Current				5		A
P_{tot}	Total Power Dissipation at $T_{case} \leq 25^\circ\text{C}$				125		W
T_{stg}	Storage Temperature				-65 to 150		°C
T_J	Junction Temperature				150		°C

* For PNP types voltage and current values are negative

THERMAL DATA

$R_{th\ J-case}$	Thermal Resistance Junction-case	Max	1	°C/W
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ELECTRICAL CHARACTERISTICS ($T_{case} = 25^\circ C$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEO}	Collector Cutoff Current ($I_B = 0$)	for TIP35/35A/36/36A $V_{CE} = 30 V$ for TIP35B/35C/36B/36C $V_{CE} = 60 V$			1	mA
I_{EBO}	Emitter Cutoff Current ($V_{BE} = 0$)	$V_{EB} = 5 V$			1	mA
I_{CES}	Collector Cutoff Current ($V_{BE} = 0$)	$V_{CE} = \text{Rated } V_{CEO}$			0.7	mA
$V_{CEO(sus)}^*$	Collector-emitter Sustaining Voltage	$I_C = 30 mA$ for TIP35/36 for TIP35A/36A for TIP35B/36B for TIP35C/36C	40			V
			60			V
			80			V
			100			V
h_{FE}^*	DC current Gain	$I_C = 1.5 A$ $V_{CE} = 4 V$ $I_C = 15 A$ $V_{CE} = 4 V$	25		50	
			10			
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = 15 A$ $I_B = 1.5 A$ $I_C = 25 A$ $I_B = 5 A$			1.8	V
					4	V
$V_{BE(on)}^*$	Base-emitter on Voltage	$I_C = 15 A$ $V_{CE} = 4 V$ $I_C = 25 A$ $V_{CE} = 4 V$			2	V
					4	V
f_T	Transition Frequency	$I_C = 1 A$ $V_{CE} = 10 V$ $f = 1 MHz$	3			MHz
h_{fe}	Small Signal Current Gain	$I_C = 1 A$ $V_{CE} = 10 V$ $f = 1 KHz$	25			

* Pulsed : pulse duration < 300 μs , duty cycle < 2 %.
For PNP types voltage and current values are negative.