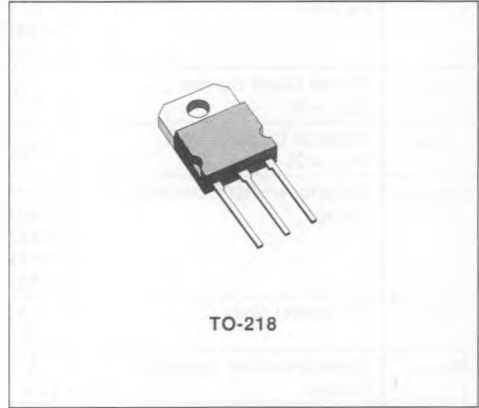


POWER AMPLIFIER AND SWITCHING APPLICATIONS

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.



INTERNAL SCHEMATIC DIAGRAMS



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	PNP* NPN	Value				Unit
			TIP36 TIP35	TIP36A TIP35A	TIP36B TIP35B	TIP36C TIP35C	
V_{CE0}	Collector-emitter Voltage ($I_B = 0$)		40	60	80	100	V
V_{CB0}	Collector-base Voltage ($I_E = 0$)		40	60	80	100	V
V_{EB0}	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				$^\circ\text{C}$
T_j	Junction Temperature		150				$^\circ\text{C}$

* For PNP types voltage and current values are negative

THERMAL DATA

$R_{th(j-c)}$	Thermal Resistance Junction-case	Max	1	°C/W
---------------	----------------------------------	-----	---	------

ELECTRICAL CHARACTERISTICS ($T_{case} = 25\text{ °C}$ unless otherwise specified)

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

* Pulsed : pulse duration $< 300\text{ }\mu\text{s}$, duty cycle $< 2\%$.
For PNP types voltage and current values are negative.