SGS-THOMSON MICROELECTRONICS

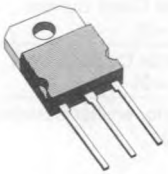
TIP35/35A/35B/35C
TIP36/36A/36B/36C

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 $T_{case} \leq 25$ °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

$R_{th\ j\text{-}case}$	Thermal Resistance Junction-case	Max	1	°C/W

ELECTRICAL CHARACTERISTICS (T_{case} = 25 °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			1	mA
		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} = Rated V_{CEO}			0.7	mA
$V_{CEO(sus)}$*	Collector-emitter Sustaining Voltage	I_C = 30 mA				
		for **TIP35/36**	40			V
		for **TIP35A/36A**	60			V
		for **TIP35B/36B**	80			V
		for **TIP35C/36C**	100			V
h_{FE}*	DC current Gain	I_C = 1.5 A V_{CE} = 4 V	25		50	
		I_C = 15 A V_{CE} = 4 V	10			
$V_{CE(sat)}$*	Collector-emitter Saturation Voltage	I_C =15 A I_B = 1.5 A			1.8	V
		I_C = 25 A I_B = 5 A			4	V
$V_{BE(on)}$*	Base-emitter on Voltage	I_C = 15 A V_{CE} = 4 V			2	V
		I_C = 25 A V_{CE} = 4 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.