NTE ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748–5089

TIP36A, TIP36B, TIP36C
Silicon PNP Transistors
Power Amp, Switch
TO–247 Type Package

Features:
- 25A Collector Current
- Low Leakage Current: I_{CEO} = 1mA @ 30V and 60V
- Excellent DC Gain: h_{FE} = 40 (Typ) @ I_C = 15A
- High Current Gain Bandwidth Product: $|h_{fe}|$ = 3 (Min) @ I_C = 1A, f = 1MHz

Absolute Maximum Ratings:

Collector–Base Voltage, V_{CB}
- TIP36A 60V
- TIP36B 80V
- TIP36C 100V

Collector–Emitter Voltage, V_{CEO}
- TIP36A 60V
- TIP36B 80V
- TIP36C 100V

Emitter–Base Voltage, V_{EB} 5V

Continuous Current, I_C
- Continuous 25A
- Peak (Note 1) 40A

Continuous Base Current, I_B 5A

Unclamped Inductive Load, E_{SB} 90mJ

Power Dissipation (T_C = +25°C), P_D 125W
- Derate Above +25°C . . . . . 1.0W/°C

Operating Junction Temperature Range, T_J . . . . . –65° to +150°C

Storage Temperature Range, T_{stg} . . . . . –65° to +150°C

Thermal Resistance, Junction–to–Case, R_{thJC} . . . . . 1.0°C/W

Thermal Resistance, Junction–to–Ambient, R_{thJA} . . . . . 35.7°C/W

Note 1. Pulse Test: Pulse Width = 10ms, Duty Cycle ≤ 10%.

Electrical Characteristics: (T_C = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF Characteristics						
Collector–Emitter Sustaining Voltage TIP36A	$V_{CEO(sus)}$	I_C = 30mA, I_B = 0, Note 2	60	–	–	V
TIP36B			80	–	–	V
TIP36C			100	–	–	V

Note 2. Pulse Test: Pulse Width = 300μs, Duty Cycle ≤ 2%.

Electrical Characteristics (Cont'd): (T_C = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current TIP36A	I_{CEO}	V_{CE} = 30V, I_B = 0	–	–	1.0	mA
TIP36B, TIP36C		V_{CE} = 60V, I_B = 0	–	–	1.0	mA
Collector Cutoff Current	I_{CES}	V_{CE} = Rated V_{CEO}, V_{EB} = 0	–	–	0.7	mA
Emitter Cutoff Current	I_{EBO}	V_{BE} = 5V, I_C = 0	–	–	1.0	mA
ON Characteristics (Note 2)						
DC Current Gain	h_{FE}	V_{CE} = 4V, I_C = 1.5A	25	–	–	
		V_{CE} = 4V, I_C = 15A	15	–	75	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 15A, I_B = 1.5A	–	–	1.8	V
		I_C = 25A, I_B = 5A	–	–	4.0	V
Base–Emitter ON Voltage	$V_{BE(on)}$	V_{CE} = 4V, I_C = 15A	–	–	2.0	V
		V_{CE} = 4V, I_C = 25A	–	–	4.0	V
Dynamic Characteristics						
Small–Signal Current Gain	h_{fe}	V_{CE} = 10V, I_C = 1.0A, f = 1kHz	25	–	–	
Current–Gain Bandwidth Product	f_T	V_{CE} = 10V, I_C = 1.0A, f = 1MHz	3	–	–	MHz

Note 2. Pulse Test: Pulse Width = 300μs, Duty Cycle ≤ 2%.