ELECTRONICS, INC.
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TIP48
Silicon NPN Transistors
High Voltage Amp, Switch
TO–220 Type Package

Features:
- Collector–Emitter Sustaining Voltage: 250–400V (Min)
- 1A Rated Collector Current
- f_T = 10Mhz (Min) @ I_C = 200mA

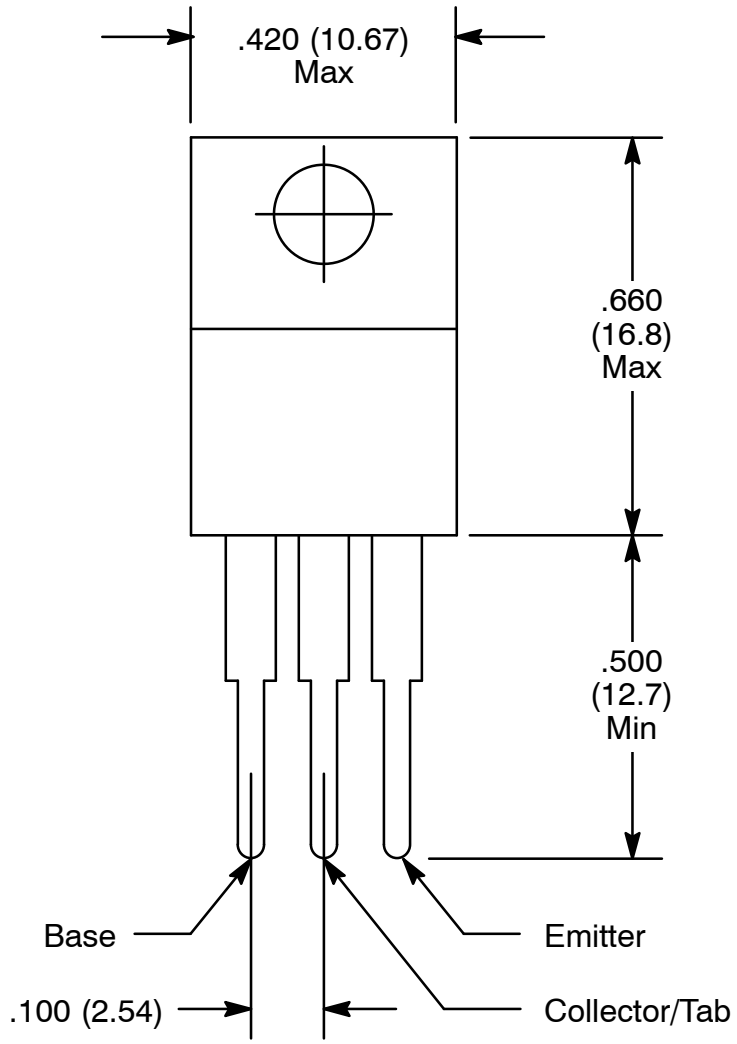
Absolute Maximum Ratings:

Collector–Emitter Voltage, V_{CEO} 300V
Collector–Base Voltage, V_{CBO} 400V
Emitter–Base Voltage, V_{EBO} 5V
Continuous Collector Current, I_C
  Continuous 1A
  Pulse 2A
Base Current, I_B 600mA
Total Power Dissipation (T_C = +25°C), P_D 40W
  Derate Above 25°C . . . . . 0.32W/°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} . . . . . 3.125°C/W

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF Characteristics						
Collector–Emitter Sustaining Voltage	$V_{CEO(sus)}$	I_C = 30mA, I_B = 0, Note 1	300	–	–	V
Collector Cutoff Current	I_{CEO}	V_{CE} = 200V, I_B = 0	–	–	1.0	mA
	I_{CES}	V_{CE} = 400V, V_{EB} = 0	–	–	1.0	mA
Emitter Cutoff Current	I_{EBO}	V_{BE} = 5V, I_C = 0	–	–	1.0	mA
ON Characteristics (Note 1)						
DC Current Gain	h_{FE}	V_{CE} = 10V, I_C = 0.3A	30	–	150	
		V_{CE} = 10V, I_C = 1.0A	10	–	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 1A, I_B = 200mA	–	–	1.0	V
Base–Emitter ON Voltage	$V_{BE(on)}$	V_{CE} = 10V, I_C = 1A	–	–	1.5	V
Dynamic Characteristics						
Current–Gain – Bandwidth Product	f_T	V_{CE} = 10V, I_C = 0.2A, f_{test} = 2Mhz, Note 2	10	–	–	MHz
Small–Signal Current Gain	h_{fe}	V_{CE} = 10V, I_C = 0.2A, f = 1kHz	25	–	–	

Note 1. Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.
Note 2. $F_T = |h_{fe}| \bullet f_{test}$.


.420 (10.67)
Max
.660
(16.8)
Max
.500
(12.7)
Min
Base
Emitter
.100 (2.54)
Collector/Tab