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NTE71
Silicon NPN Transistor
High Current Amp, Fast Switch

Description:

The NTE71 is silicon NPN transistor in a TO63 stud mount package utilizing C2R processing that provides surface stabilization for high voltage operation and enhances long term reliability.

Absolute Maximum Ratings:

Collector–Base Voltage, V_{CBO} 150V
Collector–Emitter Voltage, V_{CEO} 150V
Emitter–Base VOltage, V_{EBO} 10V
Continuous Collector Current, I_C 20A
Continuous Base Current, I_B 4.5A
Total Power Dissipation (T_C = +25°C), P_D 200W
Storage Temperature Range, T_{stg} . . . . . –65° to +200°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF Characteristics						
Collector–Emitter Sustaining Voltage	$V_{(BR)CEO(sus)}$	I_C = 100mA	150	–	–	V
Emitte Cutoff Current	I_{EBO}	V_{EB} = 10V	–	–	250	μA
Collector Cutoff Current	I_{CEX}	V_{CE} = 150V, V_{BE} = –1.5V	–	–	2	mA
		V_{CE} = 150V, V_{BE} = –1.5V, T_C = +150°C	–	–	20	mA
ON Characteristics (Note 1)						
DC Current Gain	h_{FE}	V_{CE} = 3V, I_C = 10A	10	–	50	
Collector Saturation Voltage	$V_{CE(sat)}$	I_C = 10A, I_B = 1.5A	–	–	1.5	V
Base–Emitter Voltage	V_{BE}	I_C = 10A, I_B = 1.5A	–	–	2.5	V

Note 1. Pulse test: Pulse Width = 300μs, Duy Cycle ≤ 2%.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Dynamic Characteristics						
Small–Signal Current Gain	h_{fe}	V_{CE} = 3V, I_C = 10A, f = 1MHz	0.6	–	–	
Turn–On Time	t_{on}	V_{CC} = 30V, I_C = 10A, I_{B1} = 1.5A, I_{B2} = 1.5A	–	–	3.5	µs
Turn–Off Time	t_{off}		–	–	12.0	µs
Rise Time	t_r		–	–	3.5	µs
Storage Time	t_s		–	–	6.0	µs
Fall Time	t_f		–	–	6.0	µs