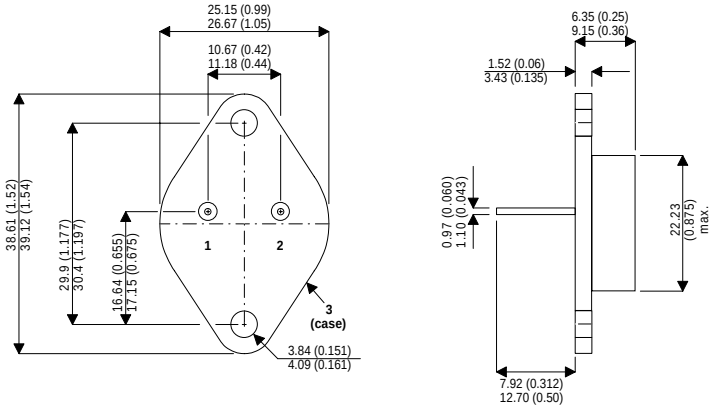
SDT96305

MECHANICAL DATA
Dimensions in mm

NPN SILICON POWER TRANSISTOR



TO3 (TO-204AA)

Pin 1 – Base Pin 2 – Emitter Case is Collector

FEATURES

- **Low saturation voltages.**
- **High current gain at 40A. (20 Typ.)**
- **Hermetic metal package.**

APPLICATIONS

- **High power switching circuits.**
- **Switching regulators.**
- **Motor drive controls.**

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C unless otherwise stated)

V_{CBO}	Collector – Base Voltage (I_E = 0)	275V
V_{CEO}	Collector – Emitter Voltage (I_B = 0)	250V
V_{EBO}	Emitter – Base Voltage (I_C = 0)	10V
I_C	Continuous Collector Current	50A
$I_{C(PK)}$	Peak Collector Current	70A
I_C	Continuous Base Current	10A
$I_{B(PK)}$	Peak Base Current	15A
P_{tot}	Total Dissipation at T_{case} = 25°C	175W
T_{stg}	Operating and Storage Temperature Range	–65 to +200°C
$R_{\theta JC}$	Thermal Resistance Junction to Case	1.0°CW

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SEME LAB

SDT96305

ELECTRICAL CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
	ELECTRICAL CHARACTERISTICS						
$V_{CEO(sus)}$*	Collector – Emitter Sustaining Voltage	I_C = 200mA	I_B = 0	250			V
$V_{(BR)CBO}$	Collector – Base Breakdown Voltage	I_C = 100µA	I_E = 0	275			
$V_{(BR)EBO}$	Emitter – Base Breakdown Voltage	I_E = 100µA	I_C = 0	10			
I_{CBO}	Collector – Base Cut–Off Current	V_{CB} = 200V	I_E = 0			10	µA
			T_C = 150°C			250	
h_{FE}*	DC Current Gain	I_C = 40A	V_{CE} = 10V	8		40	—
		I_C = 50A	V_{CE} = 10V	5			
$V_{CE(sat)}$*	Collector – Emitter Saturation Voltage	I_C = 40A	I_B = 8A			1.5	V
$V_{BE(sat)}$*	Base – Emitter Saturation Voltage	I_C = 40A	I_B = 8A			2.0	
	DYNAMIC CHARACTERISTICS						
f_t	Transition Frequency	I_C = 1.0A f = 1MHz	V_{CE} = 10V	10			MHz
C_{ob}	Output Capacitance	I_E = 0 f = 1MHz	V_{BC} = 10V			600	pF
t_{on}	Turn On Time	V_{CC} = 100V	I_C = 20A			1.0	µs
t_s	Storage Time	I_{B1} = I_{B2} = 2.0A				2.5	
t_f	Fall Time	t_p = 10µs				0.6	

* Pulse test t_p = 300µs , δ < 2%

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