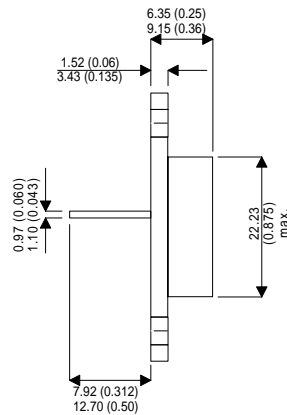
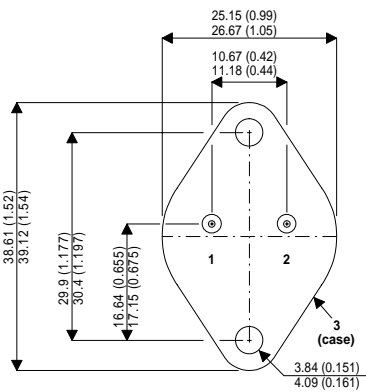


NPN BIPOLAR MULTI-EPITAXIAL POWER TRANSISTOR



FEATURES

- LOW $V_{CE(SAT)}$
- FAST SWITCHING

APPLICATIONS

- SUITABLE FOR POWER SUPPLIES AND OTHER HIGH VOLTAGE SWITCHING APPLICATIONS.

TO3 (T0-204AA)

Pin 1 – Base Pin 2 – Emitter Case – Collector

ABSOLUTE MAXIMUM RATINGS (When mounted on a suitable header)

V_{CEX}	Collector – Emitter Voltage ($V_{BE} = -1.5V$)	210V
V_{CEO}	Collector – Emitter Voltage ($I_B = 0$)	160V
V_{EBO}	Emitter – Base Voltage	8V
I_C	Collector Current	25A
I_{CM}	Collector Current (Peak)	50A
I_B	Base Current	8A
T_{stg}	Storage Temperature	-65 to 200°C
T_j	Maximum Operating Junction Temperature	200°C

Semelab Plc reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

ELECTRICAL CHARACTERISTICS (When mounted on a suitable header)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit	
$V_{CEO(BR)*}$	Collector – Emitter Breakdown Voltage $I_C = 200mA$ $I_B = 0$	160			V	
I_{CEV}	Collector - Emitter Current $V_{CE} = 260V$ $V_{BE} = -1.5V$			50	μA	
I_{EBO}	Emitter Cut-off Current ($I_C = 0$) $V_{BE} = -8V$ $I_C = 0$			100		
$V_{CE(sat)*}$	Collector - Emitter Saturation Voltage $I_C = 25A$ $I_B = 2.5A$			1.5	V	
$V_{BE(sat)*}$	Base - Emitter Saturation Voltage $I_C = 25A$ $I_B = 2.5A$			1.8	V	
h_{FE}	DC Current Gain $I_C = 1A$ $V_{CE} = 2V$	30			—	
		$I_C = 10A$ $V_{CE} = 2V$	25			100
		$I_C = 25A$ $V_{CE} = 2V$	15			
h_{fe}	Small Signal Current Gain $I_C = 1A$ $V_{CE} = 10V$ $f = 5MHz$	4		20	—	
$I_{S/B}$	Second Breakdown Collector Current $I_C = 11.1A$ $V_{CE} = 18V$	1			s	
C_{ob}	Output Capacitance $V_{CE} = 10V$ $f = 0.1MHz$	300		650	pF	
f_T	Transition Frequency $I_C = 1A$ $V_{CE} = 10V$	20		100	MHz	

*Pulse Test : $t_p = 300\mu s$, $\delta \leq 2\%$.

SWITCHING CHARACTERISTICS (When mounted on a suitable header)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
SWITCHING TIMES ON RESISTIVE LOAD					
t_d	$I_C = 25A$ $V_{BE} = -4V$ $I_{B1} = -I_{B2} = 2.5A$			0.1	μS
t_r				0.6	
t_s				1.5	
t_f				0.25	
TURN OFF SWITCHING CHARACTERISTICS – INDUCTIVE LOAD					
t_c	V_{CE}/I_C Crossover Time $I_C = 25A$ $V_{CC} = 80V$ $V_{BE} = -4V$ $V_{clamp} = 210V$ $R_C \leq 4\Omega$ $L = 25\mu H$ $I_{B1} = -I_{B2} = 3A$			0.5	μS

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