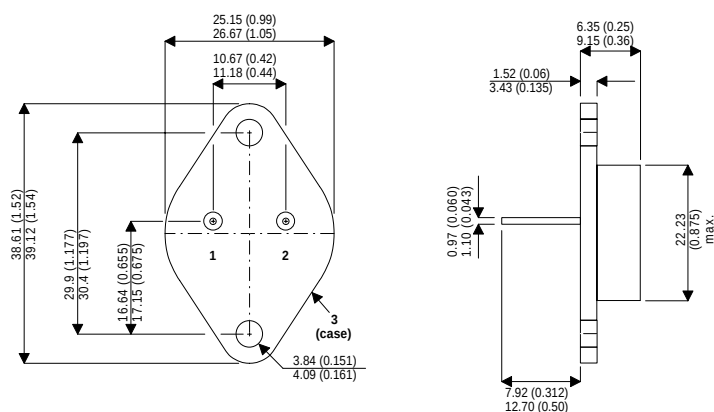


MECHANICAL DATA

Dimensions in mm(inches)



TO-3

PIN 1 — Base

PIN 2 — Emitter

Case is Collector.

NPN MULTI - EPITAXIAL POWER TRANSISTOR

FEATURES

- HIGH CURRENT
- FAST SWITCHING
- HIGH RELIABILITY

APPLICATIONS

- POWER SWITCHING CIRCUITS
- MOTOR CONTROL

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

V _{CBO}	Collector – Base Voltage (I _E = 0)	160V
V _{CEX}	Collector – Emitter Voltage (V _{BE} = -1.5V)	160V
V _{CEO}	Collector – Emitter Voltage (I _B = 0)	125V
V _{EBO}	Emitter – Base Voltage (I _C = 0)	7V
I _C	Collector Current	25A
I _{CM}	Peak Collector Current (t _p = 10 ms)	30A
I _B	Base Current	5A
P _{tot}	Total Power Dissipation at T _{case} ≤ 25°C	150W
T _{stg}	Storage Temperature	-65 to 200°C
T _j	Junction Temperature	200°C

ELECTRICAL CHARACTERISTICS ($T_{\text{case}} = 25^{\circ}\text{C}$ unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{\text{CEO(sus)}}^*$ Collector - Emitter Sustaining Voltage	$I_{\text{C}} = 200\text{mA}$	125			V
V_{EBO} Emitter – Base Voltage	$I_{\text{E}} = 50\text{mA}$	7			V
I_{CEO} Collector Cut-off Current	$V_{\text{CE}} = 100\text{V}$			1.5	mA
I_{CEX} Collector Cut-off Current	$V_{\text{CE}} = 160\text{V}$ $V_{\text{BE}} = -1.5\text{V}$			1.5	mA
	$T_{\text{C}} = 125^{\circ}\text{C}$			6	
I_{EBO} Emitter Cut-off Current	$I_{\text{C}} = 0$ $V_{\text{EB}} = 5\text{V}$			1	mA
$V_{\text{CE(sat)}}^*$ Collector – Emitter Saturation Voltage	$I_{\text{C}} = 10\text{A}$ $I_{\text{B}} = 1\text{A}$		0.3	0.6	V
	$I_{\text{C}} = 20\text{A}$ $I_{\text{B}} = 2\text{A}$		0.7	1.2	
$V_{\text{BE(sat)}}^*$ Base – Emitter Saturation Voltage	$I_{\text{C}} = 20\text{A}$ $I_{\text{B}} = 2\text{A}$		1.6	2	V
h_{FE}^* DC Current Gain	$I_{\text{C}} = 10\text{A}$ $V_{\text{CE}} = 2\text{V}$	20		75	—
	$I_{\text{C}} = 20\text{A}$ $V_{\text{CE}} = 4\text{V}$	10			
$I_{\text{S/b}}$ Second Breakdown Collector Current	$V_{\text{CE}} = 30\text{V}$ $t = 1\text{s}$	5			A
	$V_{\text{CE}} = 140\text{V}$ $t = 1\text{s}$	1			
f_{T} Transition Frequency	$I_{\text{C}} = 1\text{A}$ $V_{\text{CE}} = 15\text{V}$ $f = 10\text{MHz}$	8			MHz

THERMAL CHARACTERISTICS

$R_{\theta\text{JC}}$ Thermal Resistance Junction to Case		1.17		$^{\circ}\text{C/W}$
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