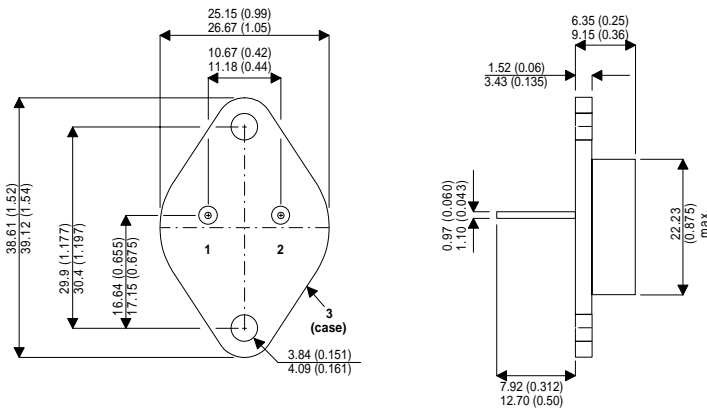


MECHANICAL DATA

Dimensions in mm(inches)

**NPN MULTI - EPITAXIAL
POWER TRANSISTOR**



FEATURES

- HIGH CURRENT
- FAST SWITCHING
- HIGH RELIABILITY

APPLICATIONS

- POWER SWITCHING CIRCUITS
- MOTOR CONTROL

TO-3

PIN 1 — Base
 PIN 2 — Emitter
 Case is Collector.

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}C$ unless otherwise stated)

V_{CBO}	Collector – Base Voltage ($I_E = 0$)	300V
V_{CEX}	Collector – Emitter Voltage ($V_{BE} = -1.5V$)	300V
V_{CEO}	Collector – Emitter Voltage ($I_B = 0$)	250V
V_{EBO}	Emitter – Base Voltage ($I_C = 0$)	7V
I_C	Collector Current	20A
I_{CM}	Peak Collector Current ($t_p = 10$ ms)	25A
I_B	Base Current	4A
P_{tot}	Total Power Dissipation at $T_{case} \leq 25^{\circ}C$	150W
T_{stg}	Storage Temperature	-65 to 200°C
T_j	Junction Temperature	200°C

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{CEO(sus)*}$ Collector - Emitter Sustaining Voltage	$I_C = 0.2mA$	250			V
V_{EBO} Emitter – Base Voltage	$I_E = 50mA$	7			V
I_{CEO} Collector Cut-off Current	$V_{CE} = 200V$			1.5	mA
I_{CEX} Collector Cut-off Current	$V_{CE} = 300V$ $V_{BE} = -1.5V$			1.5	mA
	$V_{CE} = 300V$ $V_{BE} = -1.5V$ $T_C = 125^{\circ}C$			6	
I_{EBO} Emitter Cut-off Current	$I_C = 0$ $V_{EB} = 5V$			1	mA
$V_{CE(sat)*}$ Collector – Emitter Saturation Voltage	$I_C = 5A$ $I_B = 0.5A$		0.22	1	V
	$I_C = 10A$ $I_B = 1.25A$		0.5	1.5	
$V_{BE(sat)*}$ Base – Emitter Saturation Voltage	$I_C = 10A$ $I_B = 1.25A$		1.23	1.5	V
h_{FE*} DC Current Gain	$I_C = 5A$ $V_{CE} = 4V$	20		60	—
	$I_C = 10A$ $V_{CE} = 4V$	10			
$I_{S/b}$ Second Breakdown Collector Current	$V_{CE} = 30V$ $t = 1s$	5			A
	$V_{CE} = 140V$ $t = 1s$	0.15			
f_T Transition Frequency	$I_C = 1A$ $f = 10MHz$ $V_{CE} = 15V$	8			MHz
t_{on} Turn-On Time	$I_C = 10A$ $V_{CC} = 150V$ $I_{B1} = 1.25A$		0.28	1	μs
t_s Storage Time	$I_C = 10A$ $I_{B1} = 1.25A$		1.45	2	
t_f Fall Time	$I_{B2} = -1.25A$ $V_{CC} = 150V$		0.23	0.5	

THERMAL CHARACTERISTICS

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