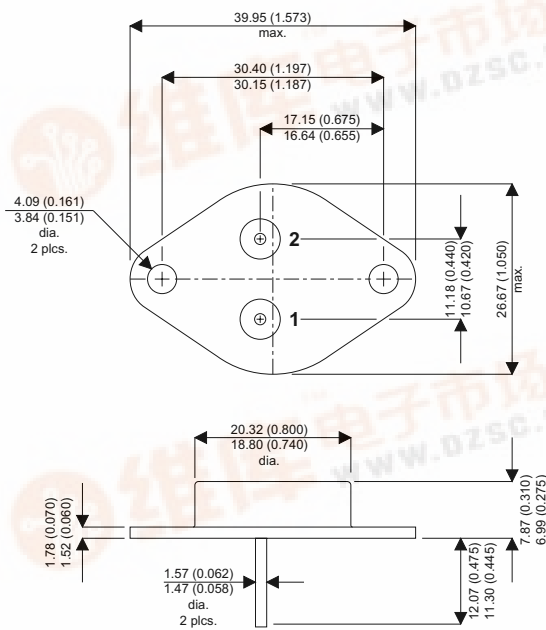


BUP54

MECHANICAL DATA

Dimensions in mm



TO3B

Pin 1 – Base Pin 2 – Emitter Case – Collector

NPN MULTI-EPITAXIAL TRANSISTOR

FEATURES

- LOW $V_{CE(SAT)}$
- FAST SWITCHING
- SINGLE CHIP CONSTRUCTION
- HIGH SWITCHING CURRENTS
- HIGH RELIABILITY
- MILITARY OPTIONS AVAILABLE

APPLICATIONS

- SWITCHING REGULATORS
- MOTOR DRIVE CONTROL
- HIGH POWER CONVERTORS

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

V_{CEX}	Collector – Emitter Voltage ($V_{BE} = -1.5V$)	500V
V_{CEO}	Collector – Emitter Voltage ($I_B = 0$)	275V
V_{EBO}	Emitter – Base Voltage	10V
I_C	Collector Current	50A
$I_{C(PK)}$	Peak Collector Current	70A
P_{tot}	Total Dissipation at $T_{case} = 25^{\circ}C$	300W
T_{stg}	Storage Temperature	-55 to $200^{\circ}C$
T_J	Maximum Operating Junction Temperature	$200^{\circ}C$
	Thermal Resistance (junction-case)	Max. $0.58^{\circ}C/W$



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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEX} Collector Cut-Off Current	$V_{\text{BE}} = 1.5\text{V}$ $V_{\text{CEX}} = 500\text{V}$			0.1	mA
	$T_{\text{C}} = 150^{\circ}\text{C}$			5	
I_{EBO} Emitter Cut-Off Current	$V_{\text{BE}} = 8\text{V}$			0.1	mA
$V_{\text{CE(sat)}}$ Collector – Emitter Saturation Voltage	$I_{\text{C}} = 20\text{A}$ $I_{\text{B}} = 2\text{A}$		0.4	0.6	V
	$I_{\text{C}} = 40\text{A}$ $I_{\text{B}} = 5.5\text{A}$		0.8	1.0	
$V_{\text{BE(sat)}}$ Base – Emitter Saturation Voltage	$I_{\text{C}} = 20\text{A}$ $I_{\text{B}} = 2\text{A}$		1.0	1.2	V
	$I_{\text{C}} = 40\text{A}$ $I_{\text{B}} = 4\text{A}$		1.1	1.3	
h_{FE} DC Current Gain	$I_{\text{C}} = 16\text{A}$ $V_{\text{CE}} = 4\text{V}$	20	35		—
	$I_{\text{C}} = 35\text{A}$ $V_{\text{CE}} = 4\text{V}$	10	20		

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

t_{s} Storage Time	$I_{\text{C}} = 20\text{A}$ $V_{\text{CC}} = 200\text{V}$			1.8	μs
t_{f} Fall Time	$I_{\text{B1}} = -I_{\text{B2}} = 10\text{A}$			0.35	