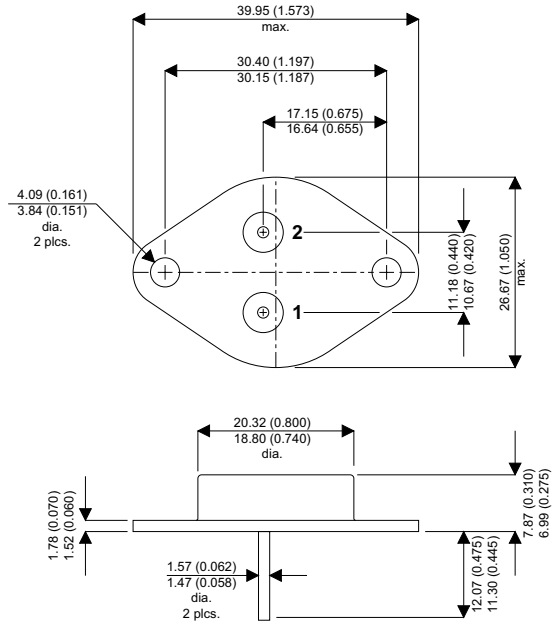
BUP54

NPN MULTI-EPITAXIAL TRANSISTOR

MECHANICAL DATA
Dimensions in mm



TO3B

Pin 1 – Base Pin 2 – Emitter Case – Collector

FEATURES

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

APPLICATIONS

- **SWITCHING REGULATORS**
- **MOTOR DRIVE CONTROL**
- **HIGH POWER CONVERTORS**

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°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°C	300W
T_{stg}	Storage Temperature	–55 to 200°C
T_J	Maximum Operating Junction Temperature	200°C
R_{th}	Thermal Resistance (junction-case)	Max. 0.58°C/W

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

	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I_{CEX}	Collector Cut–Off Current	V_{BE} = 1.5V	V_{CEX} = 500V			0.1	mA
			T_C = 150°C			5	
I_{EBO}	Emitter Cut–Off Current	V_{BE} = 8V				0.1	mA
$V_{CE(sat)}$	Collector – Emitter Saturation Voltage	I_C = 20A	I_B = 2A		0.4	0.6	V
		I_C = 40A	I_B = 5.5A		0.8	1.0	
$V_{BE(sat)}$	Base – Emitter Saturation Voltage	I_C = 20A	I_B = 2A		1.0	1.2	V
		I_C = 40A	I_B = 4A		1.1	1.3	
h_{FE}	DC Current Gain	I_C = 16A	V_{CE} = 4V	20	35		—
		I_C = 35A	V_{CE} = 4V	10	20		
SWITCHING CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)							
t_s	Storage Time	I_C = 20A	V_{CC} = 200V			1.8	µs
t_f	Fall Time	$I_{B1} = -I_{B2}$ =10 A				0.35	