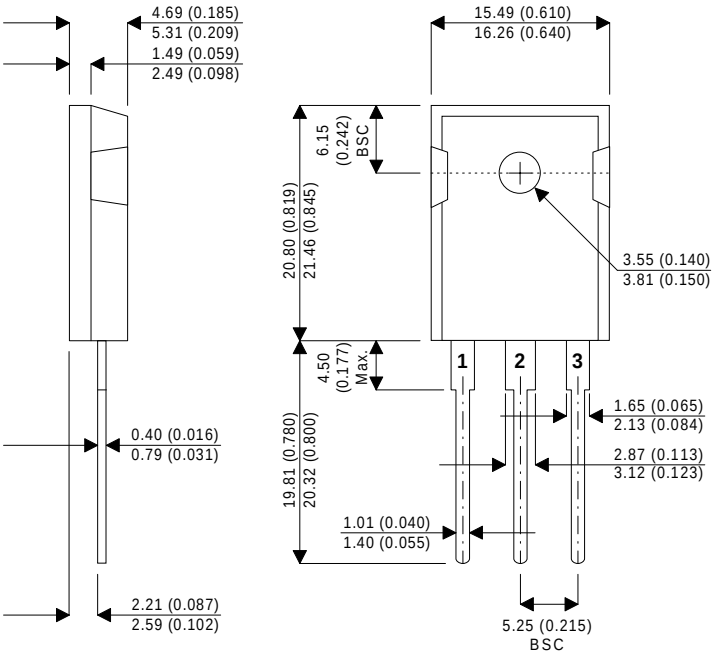
BUP56

MECHANICAL DATA
Dimensions in mm



TO247

Pin 1 – Base Pad 2 – Collector Pad 3 – Emitter

NPN MULTI-EPITAXIAL TRANSISTOR

FEATURES

- DIFFUSED BY SEMEFAB
- VERY LOW SATURATION VOLTAGES
- VERY FAST SWITCHING (t = 60ns)
- HIGH RELIABILITY

APPLICATIONS

- HIGH FREQUENCY AND HIGH EFFECIENCY CONVERTERS
- SWITCHING REGULATORS
- MOTOR CONTROLS

The BUP56 is a very fast switching, very low saturation, high power tranistor using wafer diffused by Semefab. It is particularly suited to applications requiring efficient, fast switching devices.

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

V_{CEX}	Collector – Emitter Voltage (V_{BE} = –1.5V)	150V
V_{CEO}	Collector – Emitter Voltage (I_B = 0)	60V
V_{EBO}	Emitter – Base Voltage	10V
I_C	Collector Current	30A
$I_{C(PK)}$	Peak Collector Current	40A
P_{tot}	Total Dissipation at T_{case} = 25°C	150W
T_{stg}	Storage Temperature	–55 to 175°C
T_J	Maximum Operating Junction Temperature	175°C
R_{th}	Thermal Resistance (junction-case)	1.0°C/W

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

	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{CEO(sus)}$	Collector Emitter Sustaining Voltage	I_C = 100mA	60			V
I_{CEX}	Collector Cut–Off Current	V_{BE} = -1.5V V_{CEX} = 154			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 = 15A I_B = 1.5A		0.4	0.7	V
		I_C = 30A I_B = 3A		0.7	1.0	
$V_{BE(sat)}$	Base – Emitter Saturation Voltage	I_C = 15A I_B = 1.5A		1.1	1.4	V
		I_C = 30A I_B = 3A		1.4	1.7	
h_{FE}	DC Current Gain	I_C = 15A V_{CE} = 4V	25	30		—
		I_C = 30A V_{CE} = 4V	15	22		
SWITCHING CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)						
t_{on}	On Time	I_C = 20A V_{CC} = 60V		0.2	0.5	µS
t_s	Storage Time	I_{B1} = 2A			0.7	
t_f	Fall Time	I_{B2} =2 A			0.15	

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