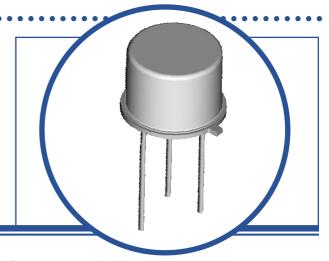
SILICON NPN TRANSISTOR



BFY51

- $V_{(BR)CEO} = 30V (Min).$
- Hermetic TO-39 Metal Package.
- Ideally Suited General Purpose Amplifier Applications
- Screening Options Available



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise stated)

Vсво	Collector – Base Voltage		60V
V_{CEO}	Collector – Emitter Voltage	30V	
V_{EBO}	Emitter – Base Voltage	6V	
IC	Continuous Collector Current	1.0A	
P_{D}	Total Power Dissipation at	$T_A = 25$ °C	0.8W
		Derate Above 25°C	4.57mW/°C
P_{D}	Total Power Dissipation at	$T_C = 25^{\circ}C$	5W
		Derate Above 25°C	28.6mW/°C
TJ	Junction Temperature Range		-65 to +200°C
T _{stg}	Storage Temperature Range		-65 to +200°C

THERMAL PROPERTIES

Symbols	Parameters	Max.	Units
R _{0JA}	Thermal Resistance, Junction To Ambient	218.75	°C/W
R _{0JC}	Thermal Resistance, Junction To Case	35	°C/W



SILICON NPN TRANSISTOR BFY51



ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise stated)

Symbols	Parameters	Test Conditions		Min.	Тур	Max.	Units
V(BR)CEO ⁽¹⁾	Collector-Emitter Breakdown Voltage	I _C = 10mA	I _B = 0	30			
V _(BR) CBO	Collector-Base Breakdown Voltage	I _C = 10μA	I _E = 0	60			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 10μA	I _C = 0	6			
ICBO	Collector Cut-Off Current	V _{CB} = 40V	I _E = 0			50	nA
			T _A = 100°C			2.5	μΑ
I _{EBO}	Emitter Cut-Off Current	V _{EB} = 5V	I _C = 0			50	nA
			T _A = 100°C			2.8	μΑ
h _{FE} ⁽¹⁾	Forward-current transfer ratio	I _C = 10mA	V _{CE} = 6V	30			
		I _C = 150mA	V _{CE} = 6V	40			
		I _C = 1.0A	V _{CE} = 6V	15			
V _{CE(sat)} ⁽¹⁾	Collector-Emitter Saturation Voltage	I _C = 150mA	I _B = 15mA			0.35	
		I _C = 1.0A	I _B = 100mA			1.6	V
V _{BE(sat)} ⁽¹⁾	Base-Emitter Saturation Voltage	I _C = 1.0A	I _B = 100mA			2	

DYNAMIC CHARACTERISTICS

h _{fe}	Small-Signal Current Gain	I _C = 1.0mA	V _{CE} = 6V	30			
		f = 1.0KHz					
f _T	Transition Frequency	$I_C = 50mA$	$V_{CE} = 6V$	50			MHz
		f = 20MHz		50			
C _{obo}	Output Capacitance	V _{CB} = 12V	I _E = 0			12	,
		f = 1.0MHz				12	pF

Notes

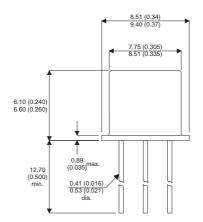
(1) Pulse Width \leq 380us, $\delta \leq$ 2%

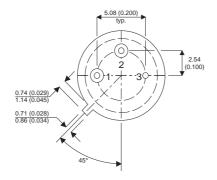
SILICON NPN TRANSISTOR BFY51



MECHANICAL DATA

Dimensions in mm (inches)





TO-39 (TO-205AD) METAL PACKAGE **Underside View**

Pin 1 - Emitter Pin 2 - Base Pin 3 - Collector

Semelab Limited Telephone +44 (0) 1455 556565

Coventry Road, Lutterworth, Leicestershire, LE17 4JB 6565 Fax +44 (0) 1455 552612 Email: <u>sales@</u>

Email: sales@semelab-tt.com

Website: http://www.semelab-tt.com