SOT-23 Formed SMD Package

BC817
BC818

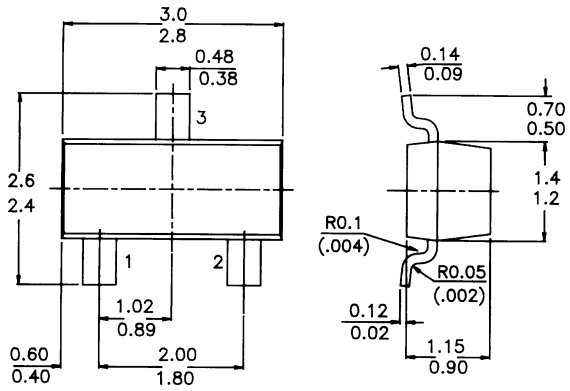
SILICON PLANAR EPITAXIAL TRANSISTORS

N–P–N transistors

Marking

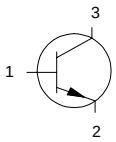
BC817 = 6D
BC817-16 = 6A
BC817-25 = 6B
BC817-40 = 6C
BC818 = 6H
BC818-16 = 6E
BC818-25 = 6F
BC818-40 = 6G

PACKAGE OUTLINE DETAILS
ALL DIMENSIONS IN mm



Pin configuration

1 = BASE
2 = EMITTER
3 = COLLECTOR



ABSOLUTE MAXIMUM RATINGS

			BC817	BC818	
Collector–emitter voltage (V_{BE} = 0)	V_{CES}	*max.*	*50*	*30*	*V*
Collector–emitter voltage (open base)	V_{CE0}	*max.*	*45*	*25*	*V*
Collector current (peak value)	I_{CM}	*max.*	*1000*		*mA*
Total power dissipation up to T_{amb} = 25 °C	P_{tot}	*max.*	*250*		mW
Junction temperature	T_j	*max.*	*150*		*° C*
Transition frequency at f = 100 MHz					
I_C = 10mA; V_{CE} = 5V	f_T	>	*100*		MHz

RATINGS *(at T_A = 25°C unless otherwise specified)*

Limiting values			***BC817***	***BC818***	
Collector–emitter voltage (V_{BE} = 0)	V_{CES}	*max.*	*50*	*30*	*V*
Collector–emitter voltage (open base)					
I_C = 10 mA	V_{CE0}	*max.*	*45*	*25*	*V*
Emitter–base voltage (open collector)	V_{EB0}	*max.*	*5*	*5*	*V*
Collector current (d.c.)	I_C	*max.*	*500*		*mA*
Collector current (peak value)	I_{CM}	*max.*	*1000*		*mA*
Emitter current (peak value)	$-I_{EM}$	*max.*	*1000*		*mA*
Base current (d.c.)	I_B	*max.*	*100*		*mA*
Base current (peak value)	I_{BM}	*max.*	*200*		*mA*
Total power dissipation up to T_{amb} = 25 °C	P_{tot}	*max.*	*250*		mW
Storage temperature	T_{stg}		*–55 to +150*		*° C*
Junction temperature	T_j	*max.*	*150*		*° C*

THERMAL RESISTANCE

From junction to ambient $R_{th\ j-a}$ = *500* K/W

CHARACTERISTICS

T_j = 25 °C unless otherwise specified

Collector cut–off current				
I_E = 0; V_{CB} = 20 V; T_j = 25 °C	I_{CB0}	<	*100*	*nA*
I_E = 0; V_{CB} = 20V; T_j = 150°C	I_{CB0}	<	*5*	*µA*
Emitter cut–off current				
I_C = 0; V_{EB} = 5 V	I_{EB0}	<	*10*	*µA*
*Base emitter voltage **				
I_C = 500 mA; V_{CE} = 1 V	V_{BE}	<	*1,2*	*V*
Saturation voltage				
I_C = 500 mA; I_B = 50 mA	V_{CEsat}	<	*700*	*mV*
D.C. current gain				
I_C = 500 mA; V_{CE} = 1 V	h_{FE}	>	*40*	
I_C = 100 mA; V_{CE} = 1 V; BC817/BC818	h_{FE}	*100 to 600*		
BC817–16 *BC818–16*	h_{FE}	*100 to 250*		
BC817–25 *BC818–25*	h_{FE}	*160 to 400*		
BC817–40 *BC818–40*	h_{FE}	*250 to 600*		
Transition frequency at f = 100 MHz				
I_C = 10 mA; V_{CE} = 5 V	f_T	>	*100*	MHz
Collector capacitance at f = 1 MHz				
I_E = I_e = 0; V_{CB} = 10V	C_c	*typ.*	*5*	*pF*

Notes

Disclaimer

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Continental Device India Limited
C-120 Naraina Industrial Area, New Delhi 110 028, India.
Telephone + 91-11-2579 6150, 5141 1112 Fax + 91-11-2579 5290, 5141 1119
email@cdil.com www.cdilsemi.com