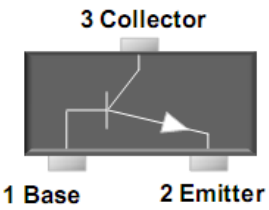
300mW, NPN Small Signal Transistor

FEATURES

- Low power loss, high current capability, low VF
- Surface mount device type
- Moisture sensitivity level 1
- Matte Tin(Sn) lead finish with Nickel(Ni) underplate
- Pb free and RoHS complian
- Packing code with suffix "G" means
  green compound (halogen-free)

SOT-23



Pb-Free

RoHS COMPLIANT

MECHANICAL DATA

- Case: SOT- 23 small outline plastic package
- Terminal: Matte tin plated, lead free,
  solderable per MIL-STD-202, Method 208 guaranteed
- High temperature soldering guaranteed: 260°C/10s
- Weight: 8mg (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Power dissipation	P_D	300	mW
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	45	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	500	mA
Thermal Resistance (Junction to Ambient)	$R_{\theta JA}$	417	°C
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Notes: 1. Valid provided that electrodes are kept at ambient temperature

PARAMETER				SYMBOL	BC817-16	BC817-25	BC817-40	UNIT
Collector-Base Breakdown Voltage		I_C= 10μA	I_E= 0	$V_{(BR)CBO}$	50			V
Collector-Emitter Breakdown Voltage		I_C= 10mA	I_B= 0	$V_{(BR)CEO}$	45			V
Emitter-Base Breakdown Voltage		I_E= 1μA	I_C= 0	$V_{(BR)EBO}$	5			V
Collector Cut-off Current		V_{CB}= 45V	I_E= 0	I_{CBO}	0.1			μA
Emitter Cut-off Current		V_{EB}= 4V	I_C= 0	I_{EBO}	0.1			μA
Collector-Emitter Saturation Voltage		I_C= 500mA	I_B= 50 mA	$V_{CE(sat)}$	0.7			V
Base-Emitter Saturation Voltage		I_C= 500mA	I_B= 50 mA	$V_{BE(sat)}$	1.2			V
Transition Frequency	V_{CE}= 5V	I_C= 10mA	f= 100MHz	f_T	100			MHz
Junction Capacitance		V_{CB}=10V	f= 1.0MHz	C_{CBO}	10			pF
DC Current Gain		V_{CE}= 1V	I_C= 100mA	h_{FE}	100	400	600	
		V_{CE}= 1V	I_C= 100mA		>40	160	250	
DC Current Gain				h_{FE}	100-250	160-400	250-600	
Min. DC Current Gain		Vce=1V	Ic=500mA	h_{FE}	40			

RATINGS AND CHARACTERISTICS CURVES

(T_A=25°C unless otherwise noted)

Fig.1 Typical Pulsed Current Gain VS.

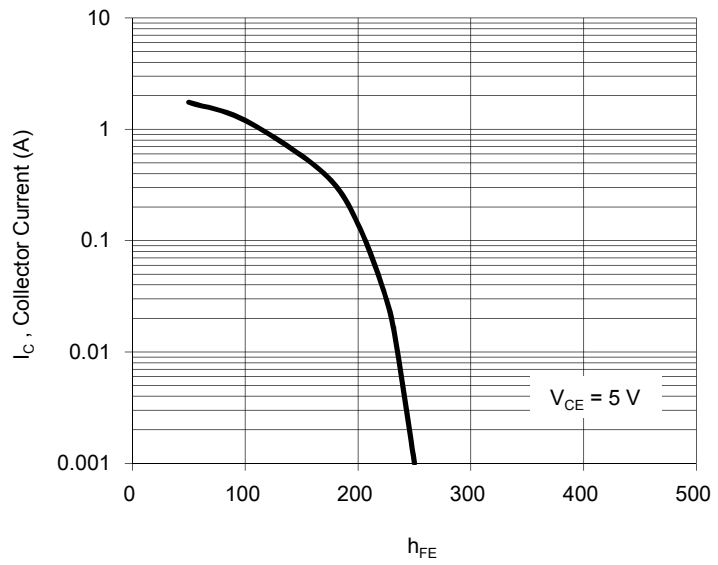


Fig. 2 Collector-Emitter Saturation Voltage VS. Collector Current

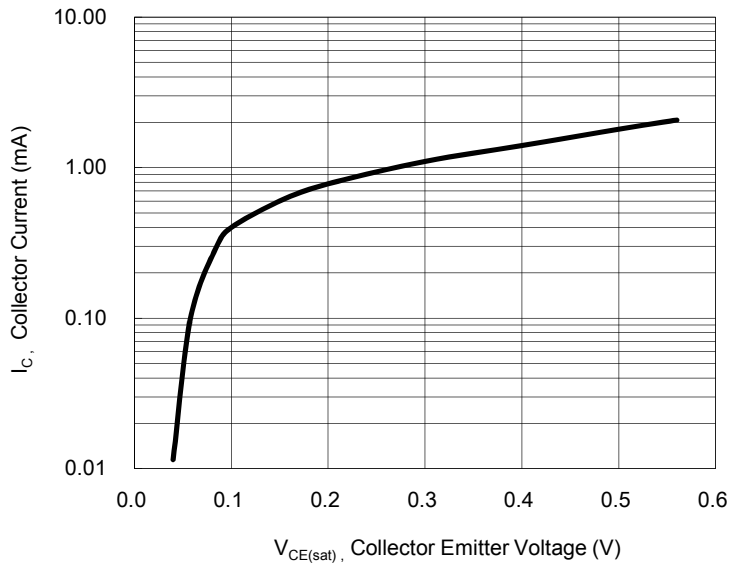


Fig. 3 Base-Emitter Saturation Voltage VS. Collector Current

Fig. 4 Base-Emitter On Voltage VS. Collector Current

Fig. 5 Collector-Base Capacitance VS. Collector-Base Voltage

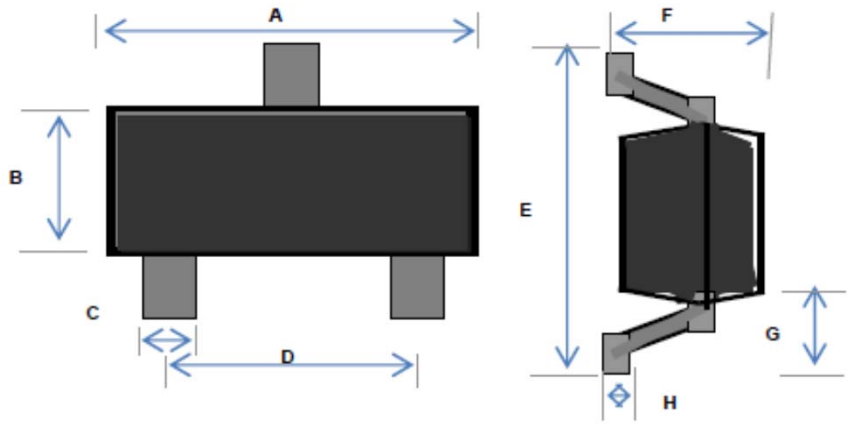
ORDER INFORMATION (EXAMPLE)

BC817-16 RFG

- Green compound code
- Packing code
- Part no.

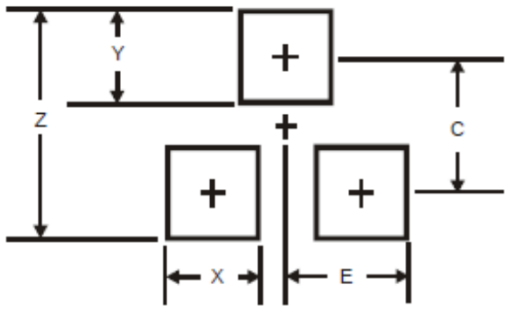
PACKAGE OUTLINE DIMENSIONS

SOT-23



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	2.70	3.10	0.106	0.122
B	1.10	1.50	0.043	0.059
C	0.30	0.51	0.012	0.020
D	1.78	2.04	0.070	0.080
E	2.10	2.64	0.083	0.104
F	0.89	1.30	0.035	0.051
G	0.55 REF		0.022 REF	
H	0.10 REF		0.004 REF	

SUGGEST PAD LAYOUT



DIM	Unit (mm)	Unit (inch)
	TYP	TYP
Z	2.8	0.11
X	0.7	0.03
Y	0.9	0.04
C	1.9	0.07
E	1.0	0.04

MARKING

Part No.	Marking
BC817-16	6A
BC817-25	6B
BC817-40	6C

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