WILLAS

RoHS COMPLIANT

General Purpose Transistors

BC817-xxLT1

NPN Silicon

- We declare that the material of product compliance with RoHS requirements.
- RoHS product for packing code suffix "G"
  Halogen free product for packing code suffix "H"
- **Moisture Sensitivity Level 1**

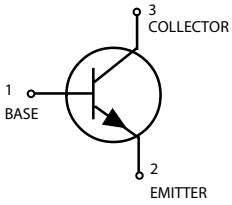
SOT–23

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector–Emitter Voltage	V_{CEO}	45	V
Collector–Base Voltage	V_{CBO}	50	V
Emitter–Base Voltage	V_{EBO}	5.0	V
Collector Current — Continuous	I_C	500	mAdc

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR– 5 Board, (1)	P_D		
T_A = 25°C		225	mW
Derate above 25°C		1.8	mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	°C/W
Total Device Dissipation	P_D		
Alumina Substrate, (2) T_A = 25°C		300	mW
Derate above 25°C		2.4	mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	°C/W
Junction and Storage Temperature	T_J , T_{stg}	–55 to +150	°C



Preliminary

DEVICE MARKING

BC817–16LT1 = 6A; BC817–25LT1 = 6B; BC817–40LT1 = 6C

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Collector–Emitter Breakdown Voltage (I_C = -10 mA)	$V_{(BR)CEO}$	45	—	—	V
Collector–Emitter Breakdown Voltage (V_{EB} = 0, I_C = -10 µA)	$V_{(BR)CES}$	50	—	—	V
Emitter–Base Breakdown Voltage (I_E = -1.0 µA)	$V_{(BR)EBO}$	5.0	—	—	V
Collector Cutoff Current	I_{CBO}				
(V_{CB} = 20 V)		—	—	100	nA
(V_{CB} = 20 V, T_A = 150°C)		—	—	5.0	µA

1. FR–5 = 1.0 x 0.75 x 0.062 in.
2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted) (Continued)

Characteristic		Symbol	Min	Typ	Max	Unit
ON CHARACTERISTICS						
DC Current Gain		h_{FE}				
(I_C= 100 mA, V_{CE} = 1.0 V)	BC817–16		100	—	250	
	BC817–25		160	—	400	
	BC817–40		250	—	600	
(I_C = 500 mA, V_{CE} = 1.0 V)			40	—	—	
Collector–Emitter Saturation Voltage (I_C = 500 mA, I_B = 50 mA)		$V_{CE(sat)}$	—	—	0.7	V
Base–Emitter On Voltage (I_C = 500 mA, V_{CE} = 1.0 V)		$V_{BE(on)}$	—	—	1.2	V
SMALL–SIGNAL CHARACTERISTICS						
Current–Gain — Bandwidth Product (I_C = 10 mA, V_{CE} = 5.0 V_{dc}, f = 100 MHz)		f_T	100	—	—	MHz
Output Capacitance (V_{CB} = 10 V, f = 1.0 MHz)		C_{obo}	—	10	—	pF

ORDERING INFORMATION

Device	Marking	Shipping
BC817-16LT1	6A	3000/Tape&Reel
BC817-25LT1	6B	3000/Tape&Reel
BC817-40LT1	6C	3000/Tape&Reel

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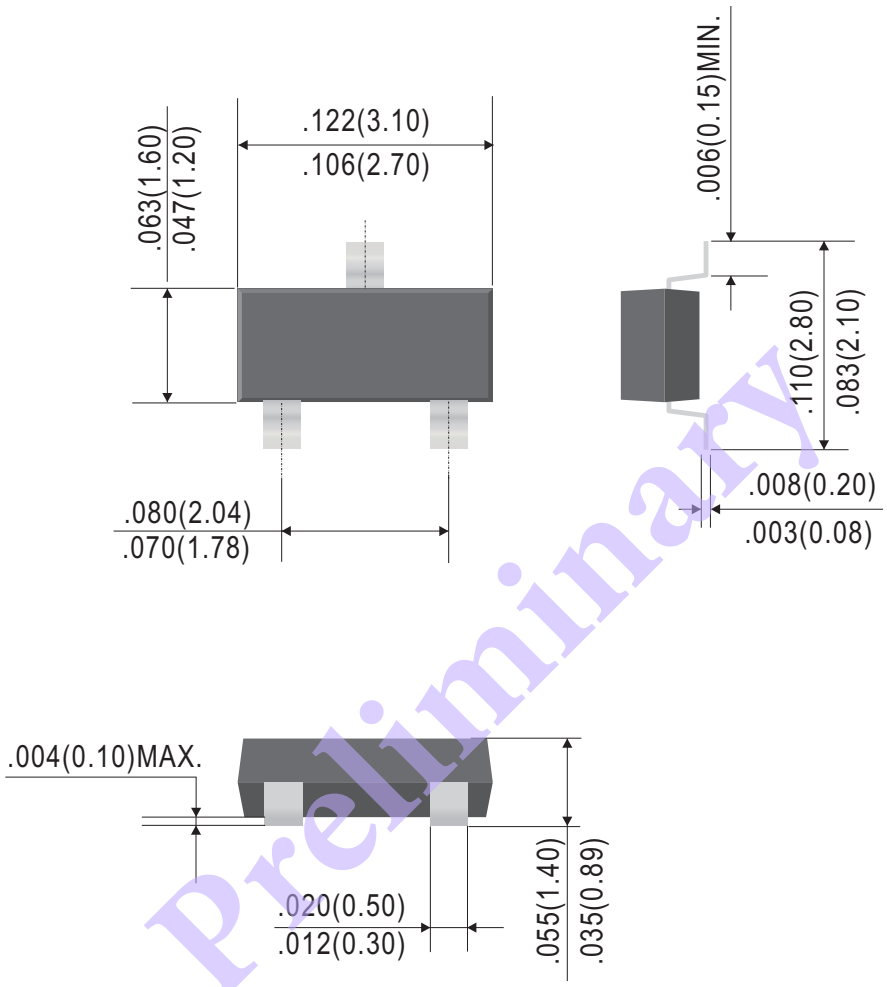

Dimensions in inches and (millimeters)

Preliminary

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Ordering Information:

Device PN	Packing
Part Number G(1)-WS	Tape&Reel: 3 Kpcs/Reel

Note: (1) RoHS product for packing code suffix "G"；Halogen free product for packing code suffix "H"

Preliminary

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