DESCRIPTION

The 2SC4177 is available in SC-70 Package

FEATURES

- High DC Current Gain
- Complementary to 2SA1611
- High Voltage
- Available in SC-70 Package

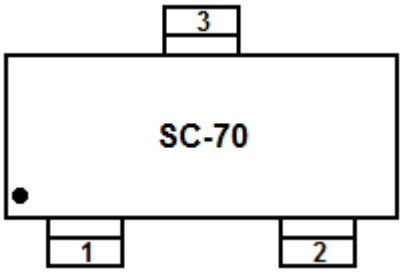
ORDERING INFORMATION

Package Type	Part Number
SC-70	2SC4177-LX
Note	LX: h_{FE} X: 4~7 Please refer to page 2 SPQ: 3,000pcs/Reel
AiT provides all RoHS Compliant Products	

APPLICATIONS

- General Purpose Amplification

PIN DESCRIPTION



1. BASE
2. EMITTER
3. COLLECTOR

ABSOLUTE MAXIMUM RATINGS

T_A=25°C, unless otherwise noted

V_{CBO}, Collector-Base Voltage	60V
V_{CEO}, Collector-Emitter Voltage	50V
V_{EBO}, Emitter-Base Voltage	5V
I_C, Collector Current	100mA
P_C, Collector Power Dissipation	150mW
$R_{\theta JA}$, Thermal Resistance from Junction to Ambient	833°C/W
T_J, Junction Temperature	150°C
T_{STG}, Storage Temperature	-55°C ~150°C

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ELECTRICAL CHARACTERISTICS

T_A=25°C, unless otherwise noted

Parameter	Symbol	Conditions		Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C= 100μA, I_E=0		60	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=1mA, I_B=0		50	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=100μA,I_C=0		5	-	-	V
Collector Cut-Off Current	I_{CBO}	V_{CB}=60V, I_E=0		-	-	100	nA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=5V, I_C=0		-	-	100	nA
DC Current Gain	h_{FE}	V_{CE}=6V, I_C=1mA	L4	90	-	180	-
			L5	135	-	270	
			L6	200	-	400	
			L7	300	-	600	
Collector- Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=100mA, I_B=10mA		-	-	0.3	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=100mA, I_B=10mA		-	-	1	V
Base-Emitter Voltage	V_{BE}	V_{CE}=6V, I_C=1mA		0.55	-	0.65	V
Transition Frequency	f_T	V_{CE}=6V, I_C=10mA		-	250	-	MHz
Collector Output Capacitance	C_{ob}	V_{CB}=6V, I_E=0, f=1MHz		-	3	-	pF

NOTE: Pulse test; pulse width≤350μs, duty cycle≤2.0%.

TYPICAL CHARACTERISTICS

Figure 1. Static Characteristic

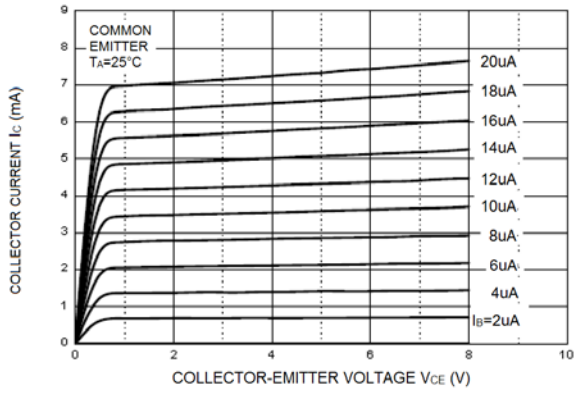


Figure 2. h_{FE} — I_C

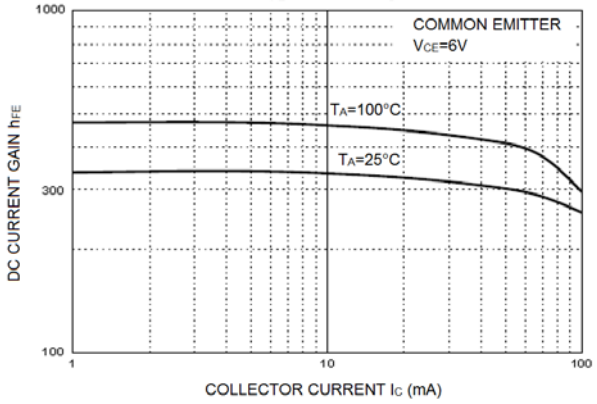


Figure 3. $V_{CE(sat)}$ — I_C

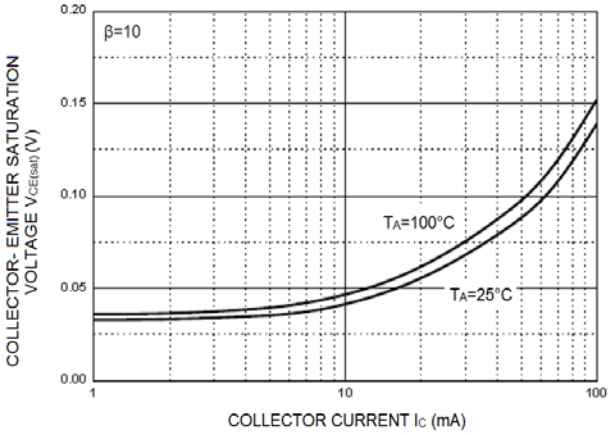


Figure 4. $V_{BE(sat)}$ — I_C

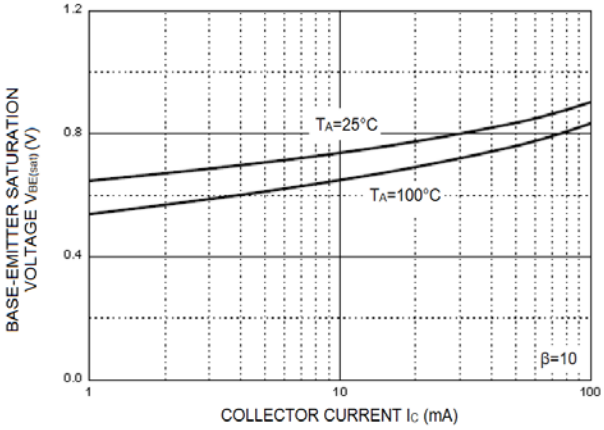


Figure 5. I_C — V_{BE}

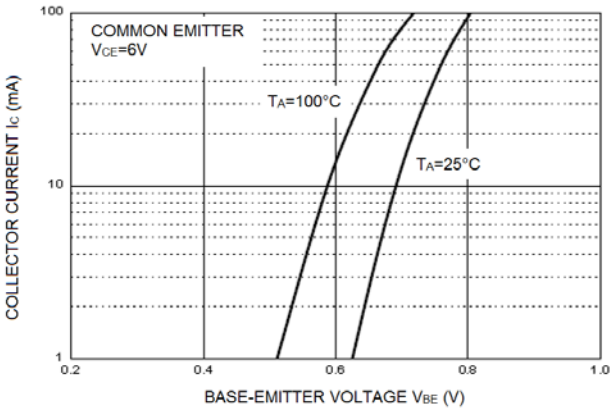


Figure 6. C_{ob} / C_{ib} — V_{CB} / V_{EB}

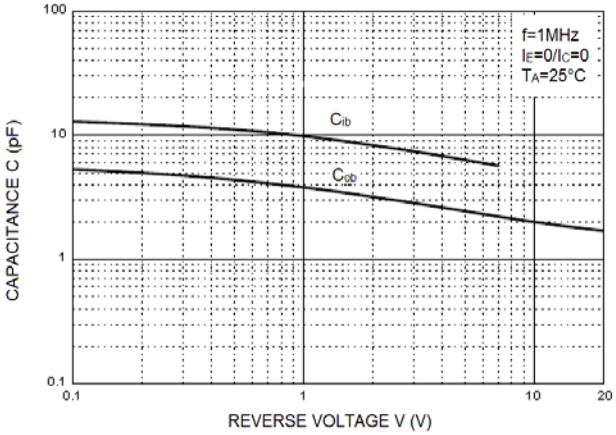
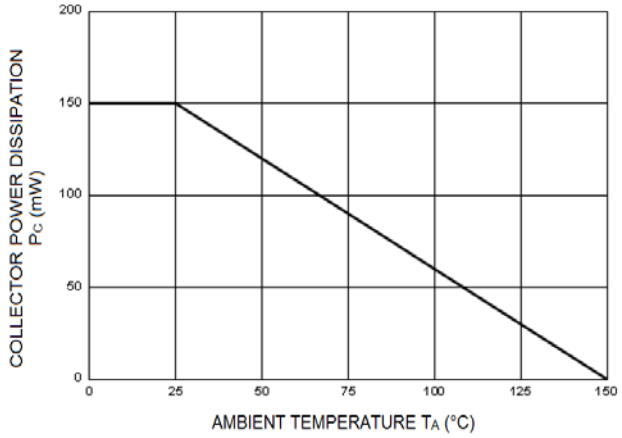
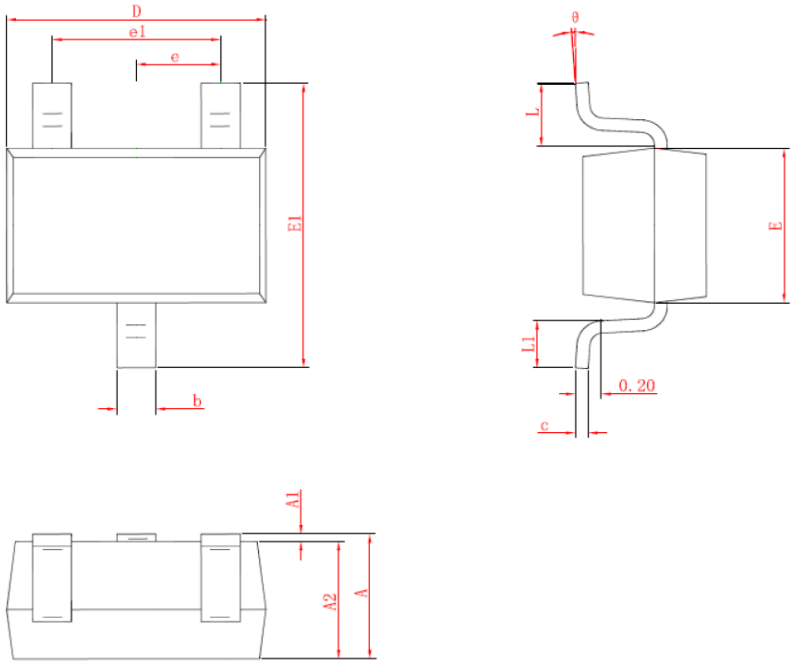


Figure 7. P_C — T_A



PACKAGE INFORMATION

Dimension in SC-70 (Unit: mm)



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.082	0.096
e	0.650 TYP.		0.026 TYP.	
e1	1.200	1.400	0.047	0.055
L	0.525 REF.		0.021 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

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