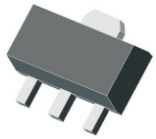
General Purpose Transistor

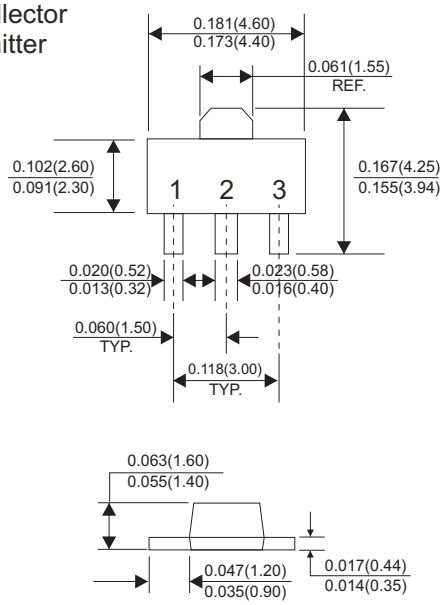
BCX51-16-G
BCX52-16-G
BCX53-16-G

RoHS Device



SOT-89-3L

1 : Base
2 : Collector
3 : Emitter

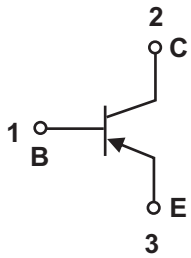


Dimensions in inches and (millimeter)

Features

- Transistor PNP.
- Low voltage.
- High current.

Circuit Diagram



Maximum Ratings (at T_A=25°C unless otherwise noted)

Parameter		Symbol	Value	Unit
Collector-Base voltage	BCX51	V_{CBO}	-45	V
	BCX52		-60	
	BCX53		-100	
Collector-Emitter voltage	BCX51	V_{CEO}	-45	V
	BCX52		-60	
	BCX53		-80	
Emitter-Base voltage		V_{EBO}	-5	V
Continuous current		I_C	-1	A
Collector power dissipation		P_C	500	mW
Thermal resistance from junction to ambient		$R_{\theta JA}$	250	°C/W
Junction temperature range		T_J	-40~+150	°C
Storage temperature range		T_{stg}	-55~+150	°C

Company reserves the right to improve product design , functions and reliability without notice.

Electrical Characteristics (at 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	BCX51	-45			V
			BCX52	-60			
			BCX53	-100			
Collector-emitter breakdown voltage	$V_{(BR)CEO}$*	I_C = -10mA, I_B = 0	BCX51	-45			V
			BCX52	-60			
			BCX53	-80			
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E = -100μA , I_C = 0		-5			V
Collector cut-off current	I_{CBO}	V_{CB} = -30V , I_E = 0				-0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB} = -5V , I_C = 0				-0.1	μA
DC current gain	$h_{FE(1)}$*	V_{CE} = -2V , I_C = -5mA		63			
	$h_{FE(2)}$*	V_{CE} = -2V , I_C = -150mA		63		250	
	$h_{FE(3)}$*	V_{CE} = -2V , I_C = -0.5A		40			
Collector-emitter saturation voltage	$V_{CE(sat)}$*	I_C = -0.5A , I_B = -50mA				-0.5	V
Base-emitter saturation voltage	V_{BE}*	V_{CE} = -2V , I_C = -0.5A				-1	V
Transition frequency	f_T	V_{CE} = -5V , I_C = -10mA f = 100MHz			50		MHz

* Pulse test

Classification Of $h_{FE(2)}$

Part No.	BCX51-16-G	BCX52-16-G	BCX53-16-G
Range	100-250	100-250	100-250

RATING AND CHARACTERISTIC CURVES (BCX51-16-G, BCX52-16-G, BCX53-16-G)

Fig.1 - Static Characteristic

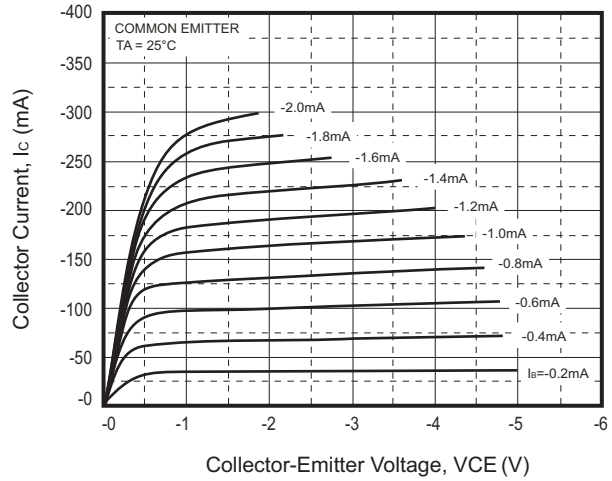


Fig.2 - h_{FE}— I_C

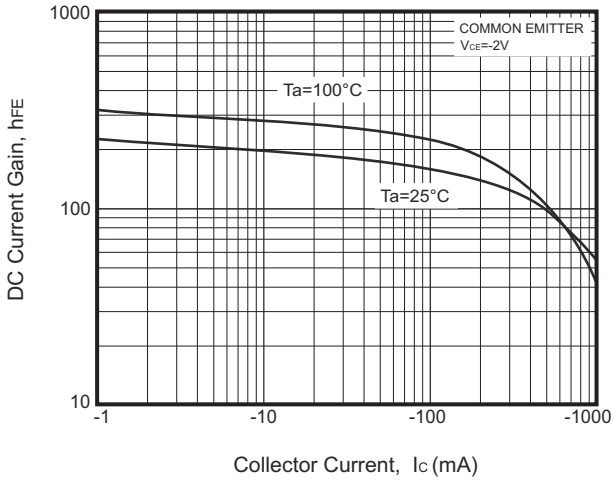


Fig.3 - V_{CEsat} — I_C

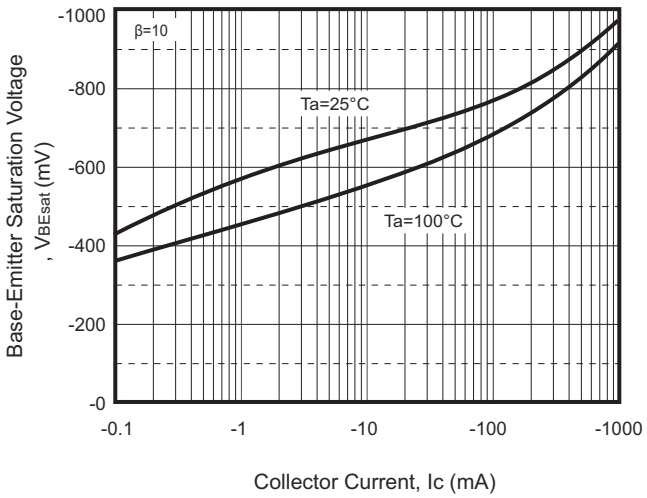


Fig.4 - V_{BEsat} — I_C

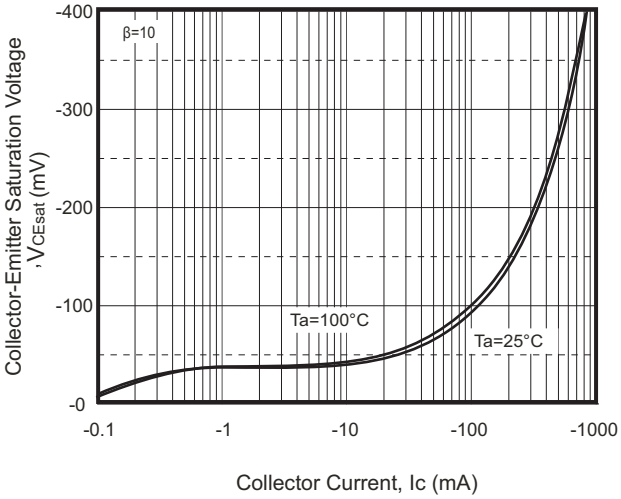


Fig.5 - f_T — I_C

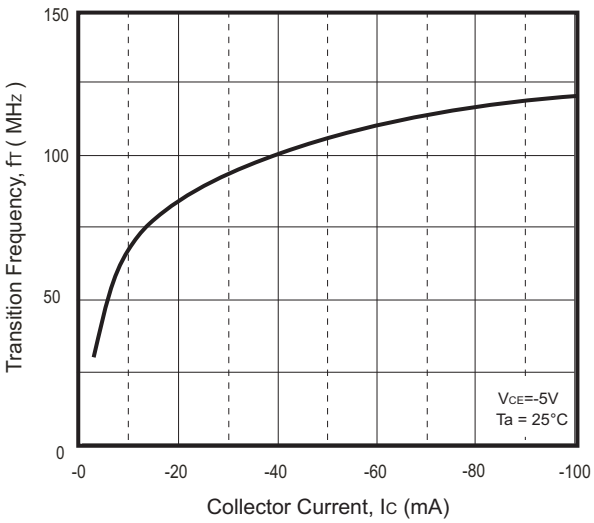
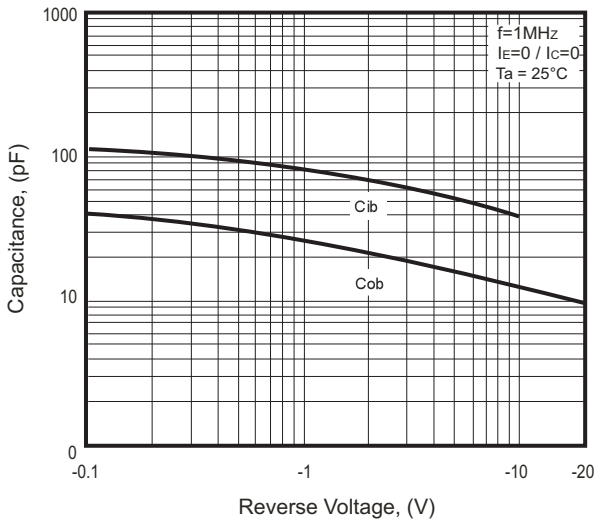


Fig.6 - C_{ob}/C_{ib} — V_{CB}/V_{EB}



ATING AND CHARACTERISTIC CURVES (BCX51-16G, BCX52-16-G, BCX53-16-G)

Fig.7 - I_C — V_{BE}

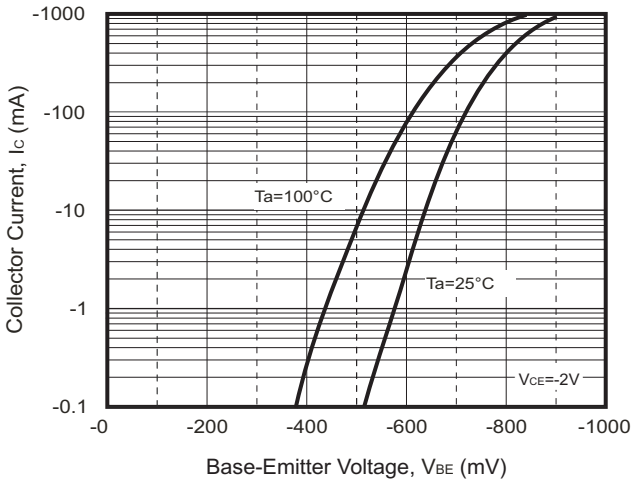
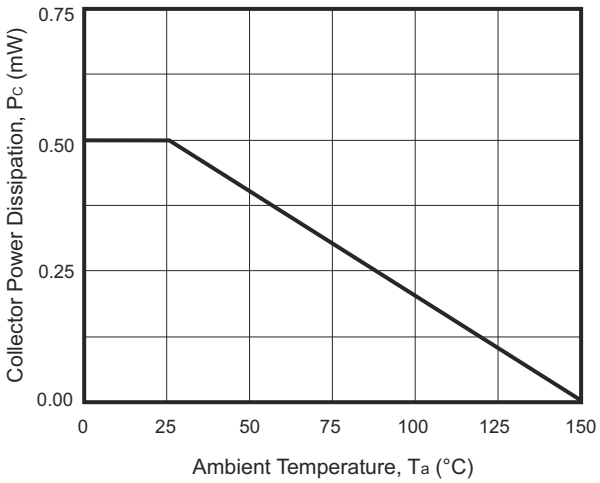
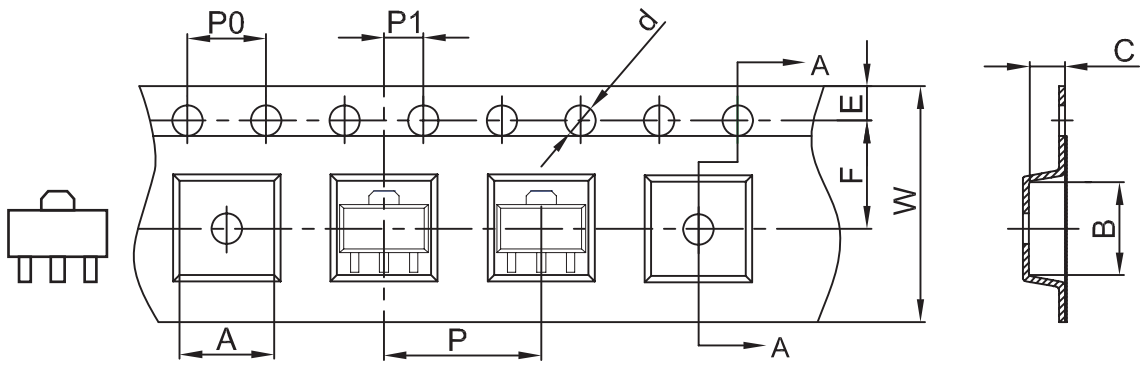
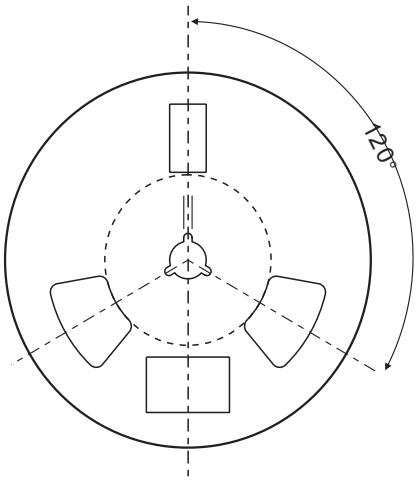


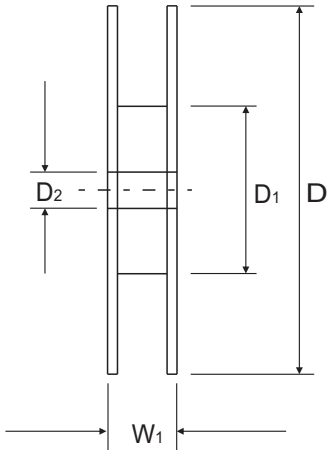
Fig.8 - P_C — Ta

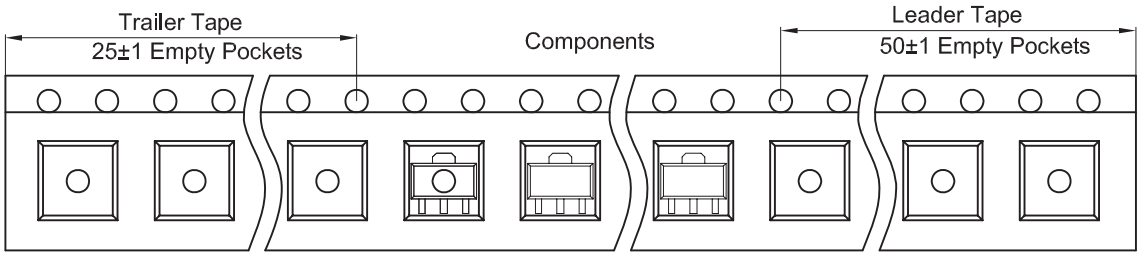


Reel Taping Specification







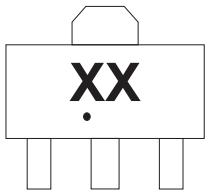


	SYMBOL	A	B	C	d	D	D_1	D_2
SOT-89-3L	(mm)	4.85 ± 0.10	4.45 ± 0.10	1.85 ± 0.10	1.50 + 0.10	180 ± 2.00	60.00 ± 1.00	R32.00 ± 1.00
	(inch)	0.191 ± 0.004	0.175± 0.004	0.073 ± 0.004	0.059 + 0.004	7.087 ± 0.079	2.362 ± 0.039	1.260 ± 0.039

	SYMBOL	E	F	P	P_0	P_1	W	W_1
SOT-89-3L	(mm)	1.75 ± 0.10	5.50 ± 0.10	8.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	12.00 + 0.30 / - 0.10	16.50 ± 1.00
	(inch)	0.069 ± 0.004	0.217 ± 0.004	0.315 ± 0.004	0.158 ± 0.004	0.079 ± 0.004	0.472 + 0.012 / - 0.004	0.650 ± 0.039

Marking Code

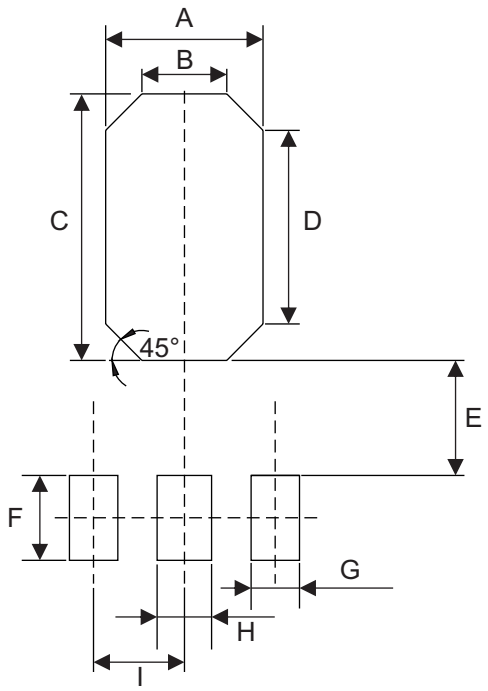
Part Number	Marking Code
BCX51-16-G	AD
BCX52-16-G	AM
BCX53-16-G	AL



xx = Product type marking code

Suggested PAD Layout

SIZE	SOT-89-3L	
	(mm)	(inch)
A	2.60	0.102
B	1.40	0.055
C	4.40	0.173
D	3.20	0.126
E	1.90	0.075
F	1.10	0.043
G	0.52	0.020
H	0.58	0.023
I	1.50	0.059



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOT-89-3L	1,000	7