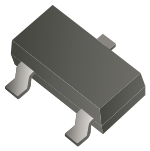
General Purpose Transistor

2SC3356-G Series

RoHS Device

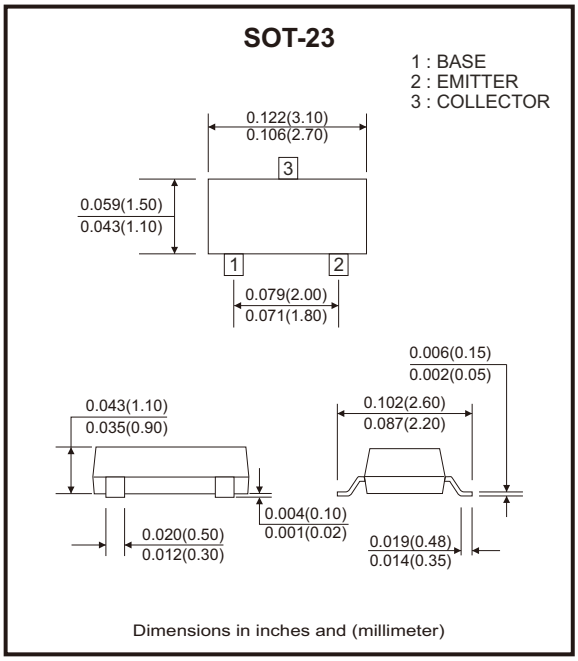


Features

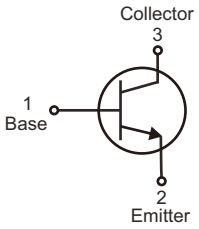
- Low noise and high gain.
- High power gain.
- Designed for low noise amplifier.

Mechanical data

- Case: SOT-23, molded plastic.
- Molding compound: UL flammability classification rating 94V-0.
- Terminals: Tin-plated; solderability per MIL-STD-202, method 208.



Circuit Diagram



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

Parameter	Symbol	Value	Unit
Collector-base breakdown voltage	V_{CBO}	20	V
Collector-emitter breakdown voltage	V_{CEO}	12	V
Emitter-base breakdown voltage	V_{EBO}	3	V
Collector current (continuous)	I_C	100	mA
Collector power dissipation (Note 1)	P_C	200	mW
Thermal resistance junction to air (Note 1)	$R_{\theta JA}$	375	°C/W
Thermal resistance junction to case (Note 1)	$R_{\theta JC}$	294	°C/W
Thermal resistance junction to lead (Note 1)	$R_{\theta JL}$	226	°C/W
Junction temperature range	T_J	-55 to +150	°C
Storage temperature range	T_{STG}	-55 to +150	°C

Notes: 1. The data tested by surface mounted on a 16mm x 18mm x 2mm FR4-epoxy P.C.B.

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 = 10μA, I_E = 0	20			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C = 1mA, I_B = 0	12			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E = 10μA, I_C = 0	3			V
Collector cut-off current	I_{CBO}	V_{CB} = 10V, I_E = 0			1	μA
Emitter cut-off current	I_{EBO}	V_{EB} = 1V, I_C = 0			1	μA
DC current gain	h_{FE}	V_{CE} = 10V, I_C = 20mA	80	120	250	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = 20mA, I_B = 4mA			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C = 20mA, I_B = 4mA			1.1	V
Transition frequency	f_T	I_C = 20mA, V_{CE} = 10V		7		GHz
Insertion power gain	$\|S_{21e}\|^2$	V_{CE} = 10V, I_C = 20mA, f = 1GHz		11.5		dB
Output capacitance	C_{ob}	V_{CB} = 10V, I_E = 0A, f = 1MHz		0.55	1.0	pF
Noise figure	N_F	V_{CE} = 10V, I_C = 7mA, f = 1GHz		1.10	2.0	dB

Classification Of hFE

Part No.	2SC3356R-G	2SC3356S-G
Range	80-160	125-250

Typical Rating and Characteristic Curves (2SC3356-G Series)

Fig.1 - Output Characteristic

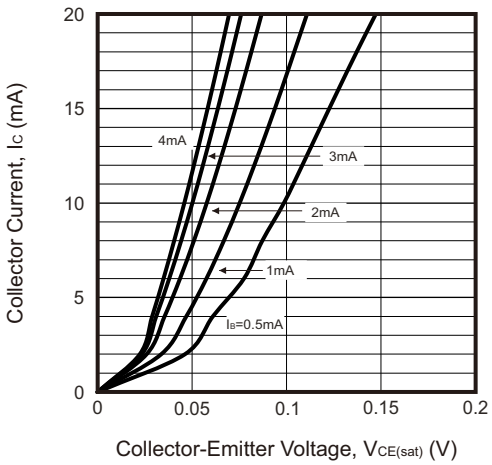


Fig.2 - DC Current Gain vs. Collector Current

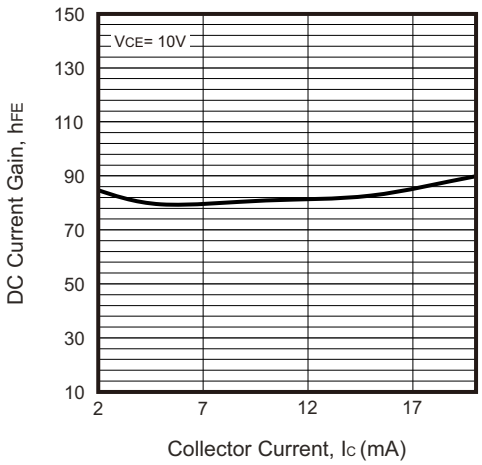
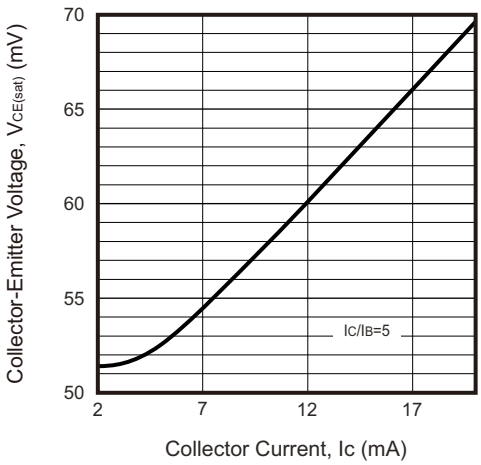
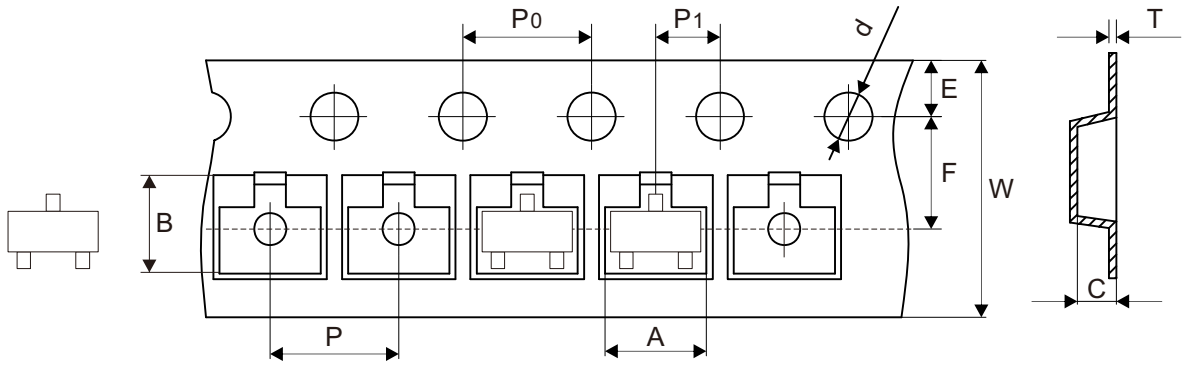
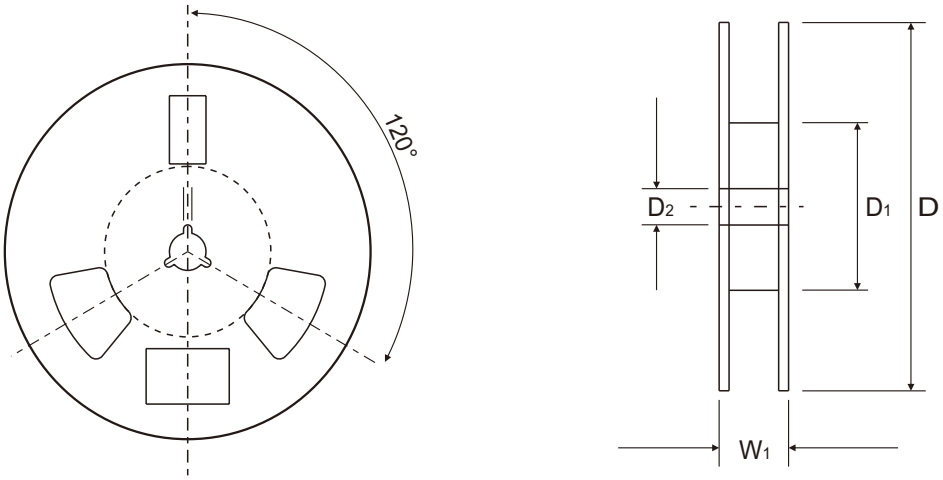


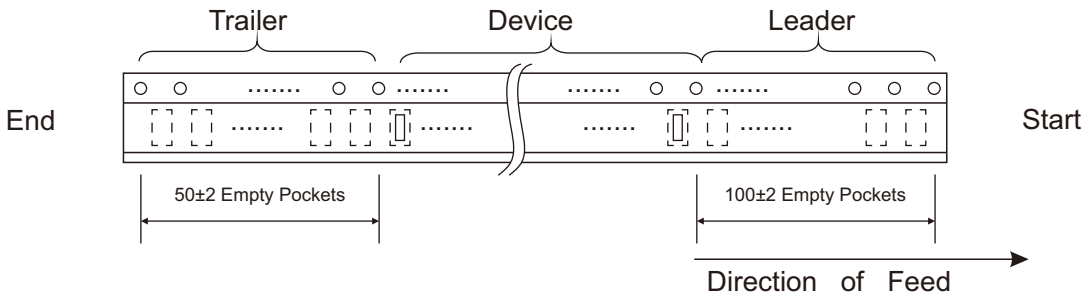
Fig.3 - Collector-Emitter Saturation Voltage vs. Collector Current



Reel Taping Specification





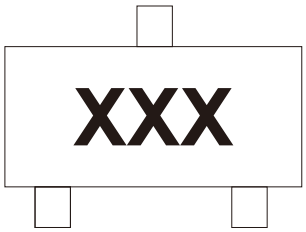


	SYMBOL	A	B	C	d	D	D1	D2
SOT-23	(mm)	3.15 ± 0.10	2.77 ± 0.10	1.22 ± 0.10	1.50 ± 0.10	178.00 ± 1.00	54.00 ± 0.50	13.00 ± 0.50
	(inch)	0.124 ± 0.004	0.109 ± 0.004	0.048 ± 0.004	0.059 ± 0.004	7.008 ± 0.039	2.126 ± 0.020	0.512 ± 0.020

	SYMBOL	E	F	P	P0	P1	T	W	W1
SOT-23	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.20 ± 0.02	8.00 ± 0.30	12.50 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.008 ± 0.001	0.315 ± 0.012	0.492 ± 0.039

Marking Code

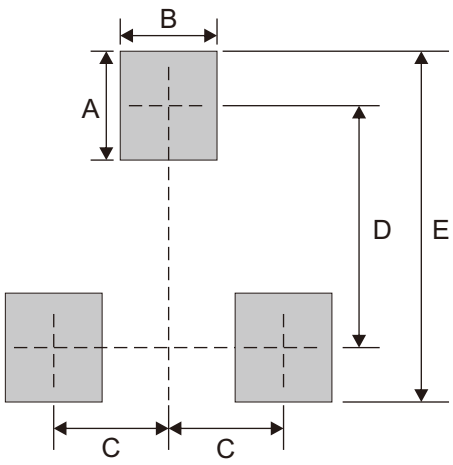
Part Number	Marking Code
2SC3356R-G	R24
2SC3356S-G	R25



XXX = Product type marking code

Suggested P.C.B. PAD Layout

SIZE	SOT-23	
	(mm)	(inch)
A	0.90	0.035
B	0.80	0.031
C	0.95	0.037
D	2.00	0.079
E	2.90	0.114



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOT-23	3,000	7