

2SC2412R-HF (NPN)

RoHS Device

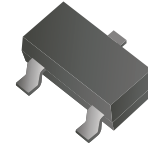
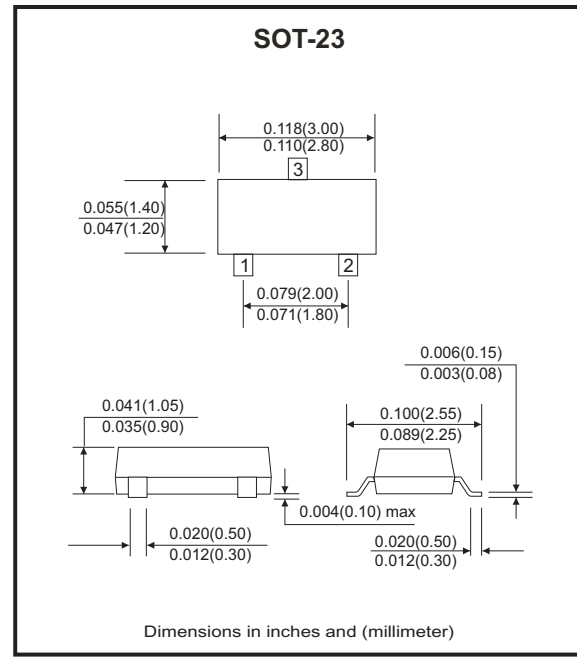
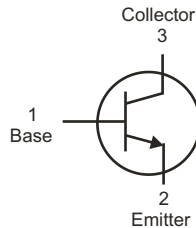


Diagram:

- 1 : BASE
- 2 : EMITTER
- 3 : COLLECTOR



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

Parameter	Symbol	Value	Unit
Collector-Base voltage	V _{CB0}	60	V
Collector-Emitter voltage	V _{CEO}	50	V
Emitter-Base voltage	V _{EBO}	7	V
Collector current	I _c	150	mA
Collector power dissipation	P _c	200	mW
Thermal resistance from junction to ambient	R _{θJA}	625	°C/W
Junction temperature	T _J	150	°C
Storage temperature	T _{stg}	-55~+150	°C

Electrical Characteristics (at TA=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Collector-Base breakdown voltage	I _c = 50μA, I _E = 0	V _{(BR)CBO}	60	-	-	V
Collector-Emitter breakdown voltage	I _c = 1mA, I _B = 0	V _{(BR)CEO}	50	-	-	V
Emitter-Base breakdown voltage	I _E = 50μA, I _C = 0	V _{(BR)EBO}	7	-	-	V
Collector cut-off current	V _{CB} = 60V, I _E = 0	I _{CBO}	-	-	0.1	μA
Emitter cut-off current	V _{EB} = 7V, I _C = 0	I _{EBO}	-	-	0.1	μA
DC current gain	V _{CE} = 6V, I _C = 1mA	h _{FE}	180	-	390	
Collector-Emitter saturation voltage	I _C = 50mA, I _B = 5mA	V _{CE(sat)}	-	-	0.4	V
Transition frequency	V _{CE} = 12V, I _C = -2mA, f = 100MHz	f _T	-	160	-	MHz
Collector output capacitance	V _{CB} = 12V, I _E = 0, f = 1MHz	C _{ob}	-	2.0	3.5	pF

RATING AND CHARACTERISTIC CURVES (2SC2412R-HF)

Fig.1 - $V_{CE} - I_c$

Fig.1 - Static Characteristic

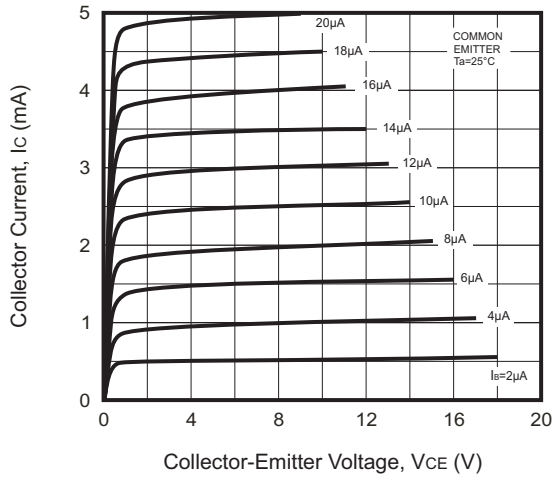


Fig.2 - $h_{FE} - I_c$

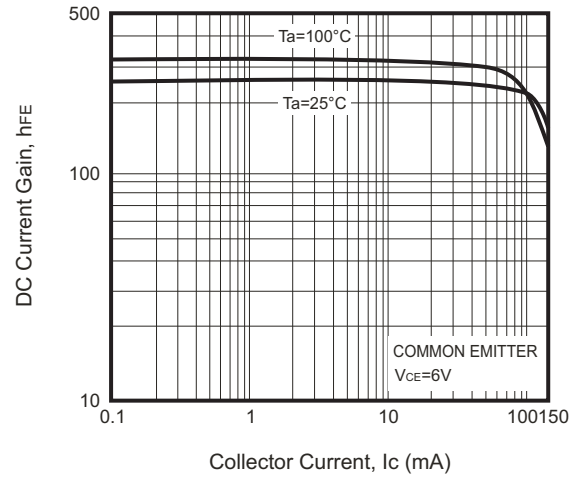


Fig.3 - $V_{CEsat} - I_c$

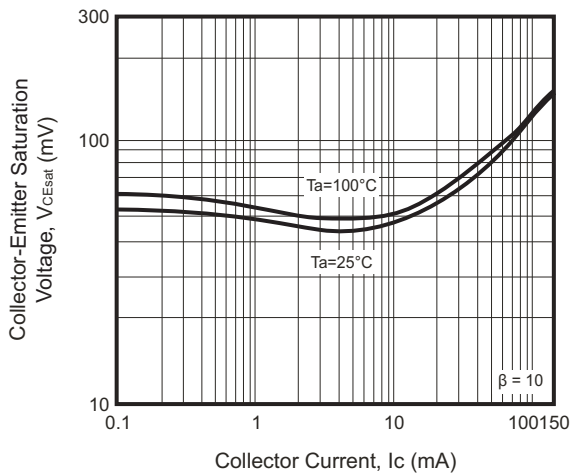


Fig.4 - $V_{BEsat} - I_c$

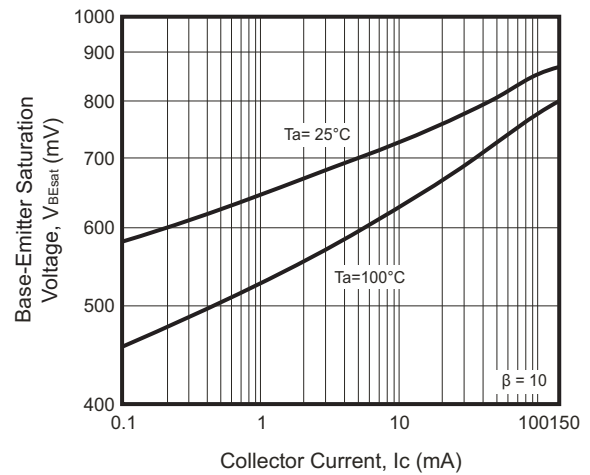


Fig.5 - $V_{BE} - I_c$

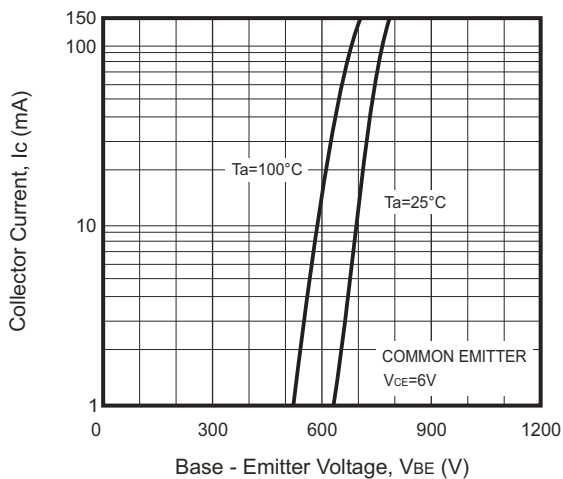
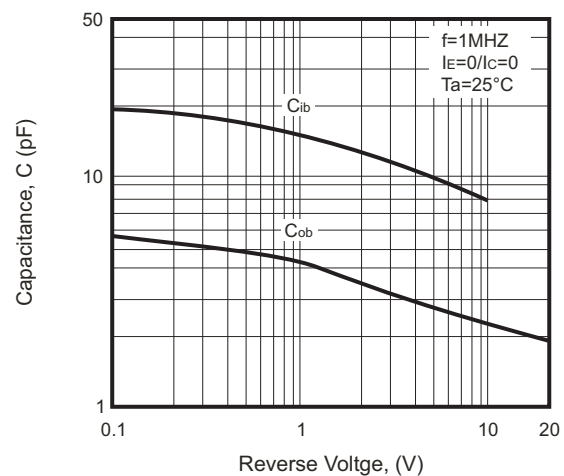


Fig.6 - $C_{ob}/C_{ib} - V_{CB}/V_{EB}$



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

RATING AND CHARACTERISTIC CURVES (2SC2412R-HF)

Fig.7 - F_T — I_c

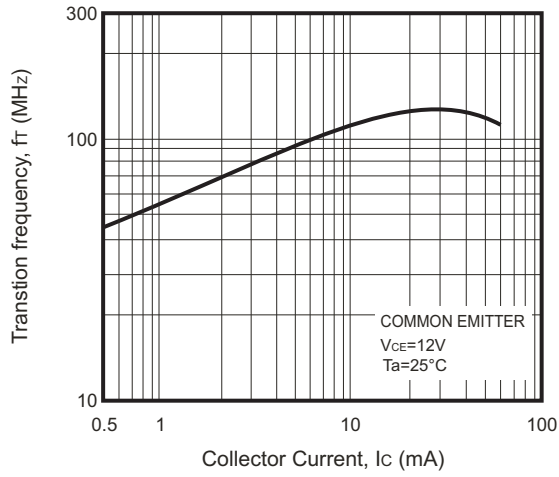
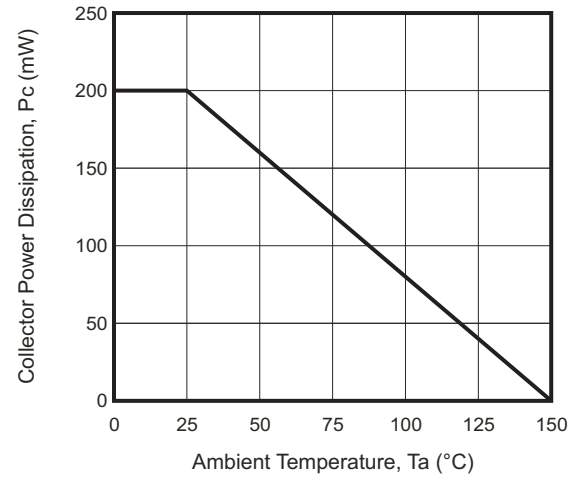
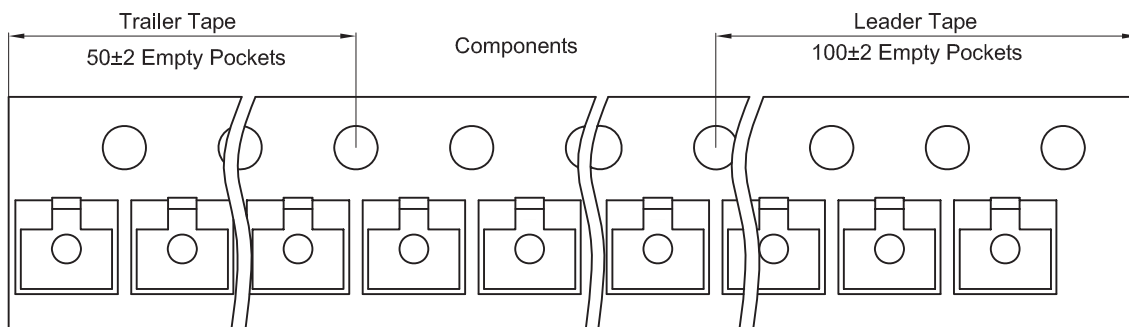
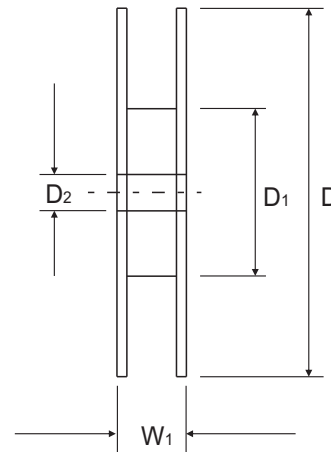
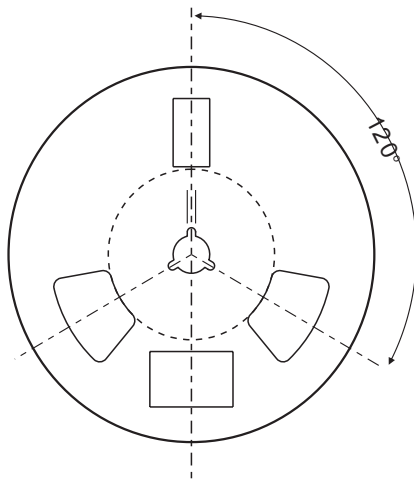
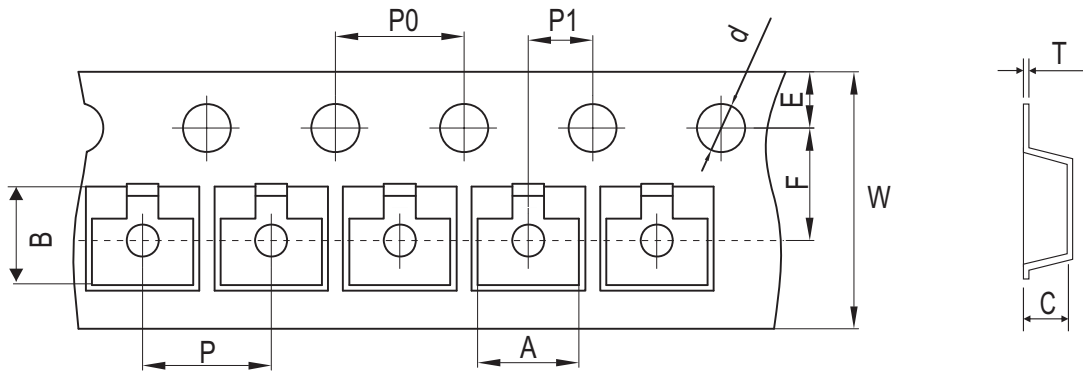


Fig.8 - P_c — T_a



Reel Taping Specification



SOT-23	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	3.15 ± 0.10	2.77 ± 0.10	1.22 ± 0.10	1.50 ± 0.10	178.00 ± 2.00	54.40 ± 1.00	13.00 ± 1.00
	(inch)	0.124 ± 0.004	0.109 ± 0.004	0.048 ± 0.004	0.059 ± 0.004	7.087 ± 0.079	2.142 ± 0.039	0.512 ± 0.039

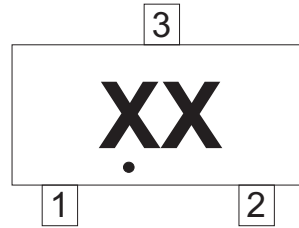
SOT-23	SYMBOL	E	F	P	P0	P1	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	8.00 + 0.30 / - 0.10	12.30 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.315 + 0.012 / - 0.004	0.484 ± 0.039

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REV: A

Marking Code

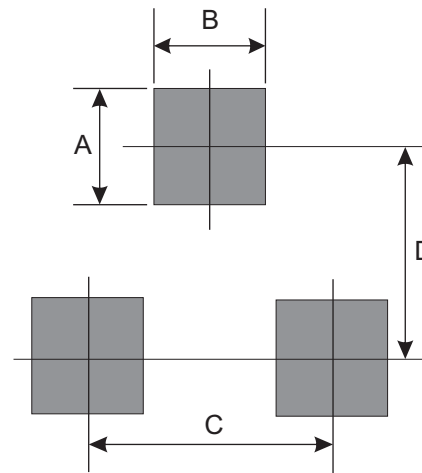
Part Number	Marking Code
2SC2412R-HF	BR



xx = Product type marking code
 Solid dot “.” = Halogen Free

Suggested PAD Layout

SIZE	SOT-23	
	(mm)	(inch)
A	0.80	0.031
B	0.60	0.024
C	1.90	0.075
D	2.02	0.080



Note:
 1. General tolerance: $\pm 0.05\text{mm}$.
 2. The pad layout is for reference purposes only.

Standard Packaging

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