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TP2SC2412R

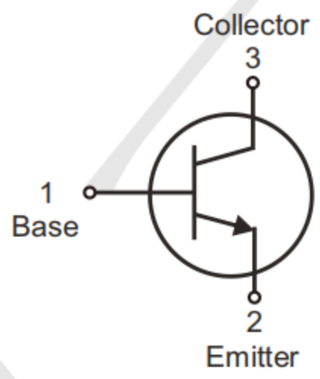
NPN Switching Transistor

www.sot23.com.tw

SOT23



Circuit Diagram



Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base voltage	V_{CBO}	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	$R_{\theta JA}$	625	°C/W
Junction temperature	T_J	150	°C
Storage temperature	Tstg	-55~+150	°C

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Electrical Characteristics (TA=25°C unless otherwise specified)

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

Typical Performance Characteristics (T_A=25°C unless otherwise Specified)

Fig.1 - V_{CE} — I_C

Fig.1 - Static Characteristic

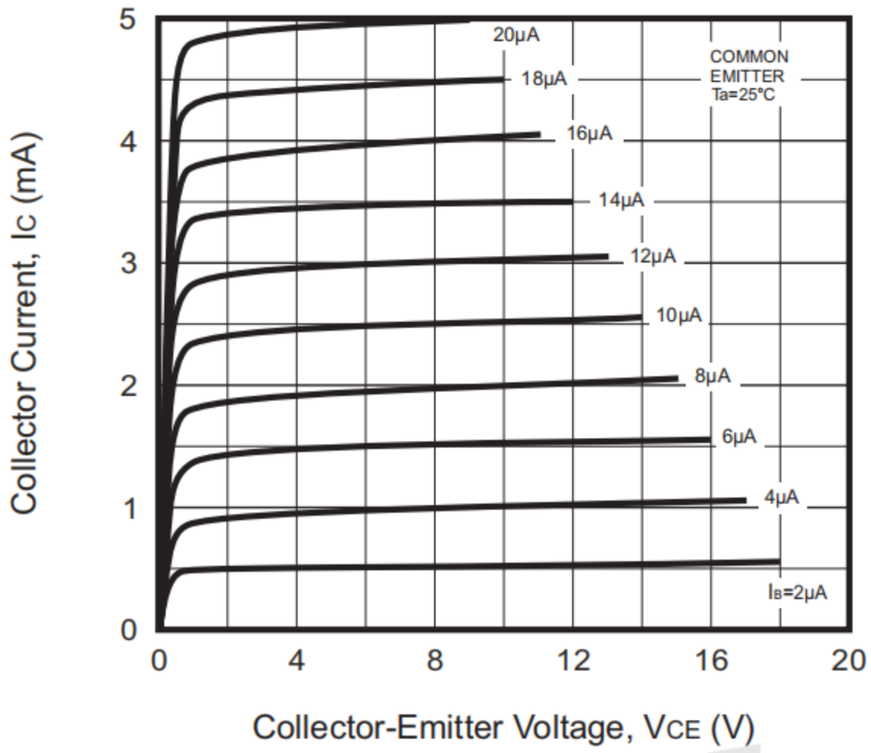


Fig.2 - h_{FE} — I_C

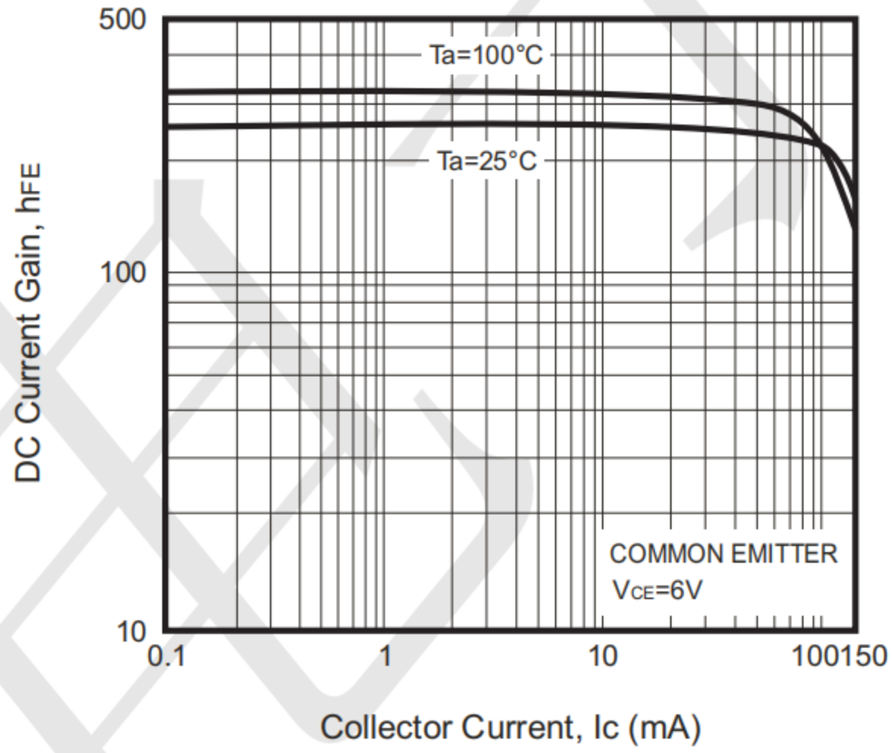


Fig.3 - V_{CEsat} — I_C

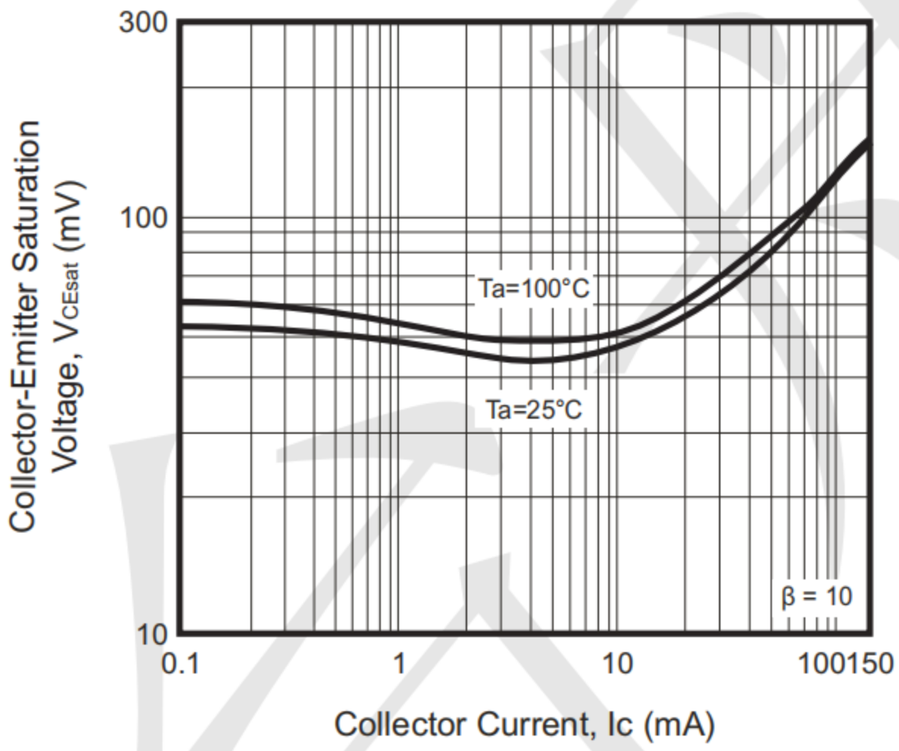
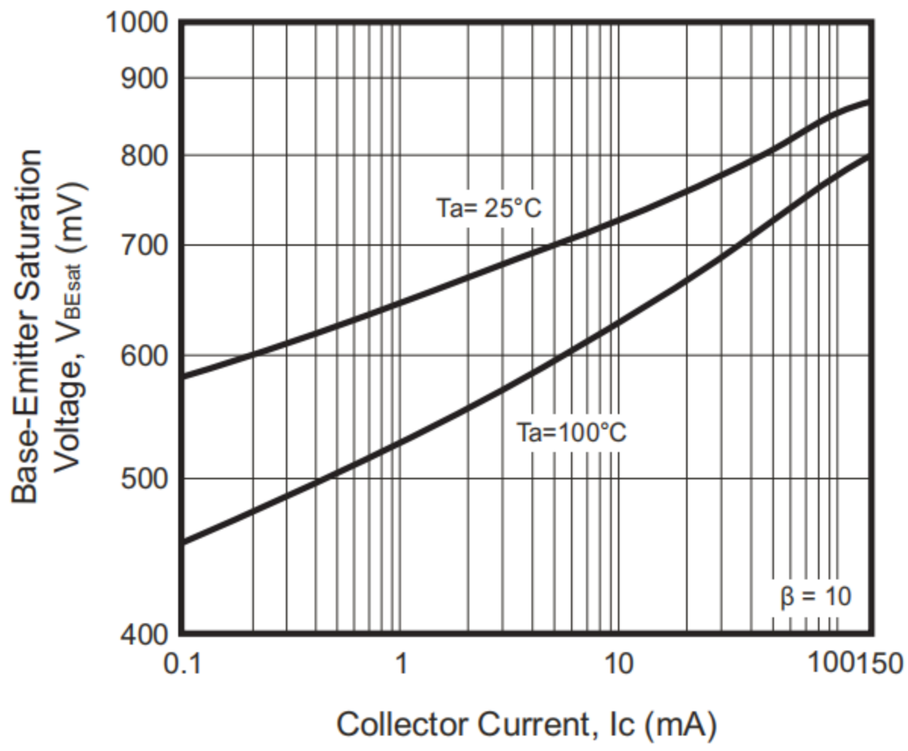


Fig.4 - V_{BEsat} — I_C



Typical Performance Characteristics (T_A=25°C unless otherwise Specified)

Fig.5 - V_{BE} — I_C

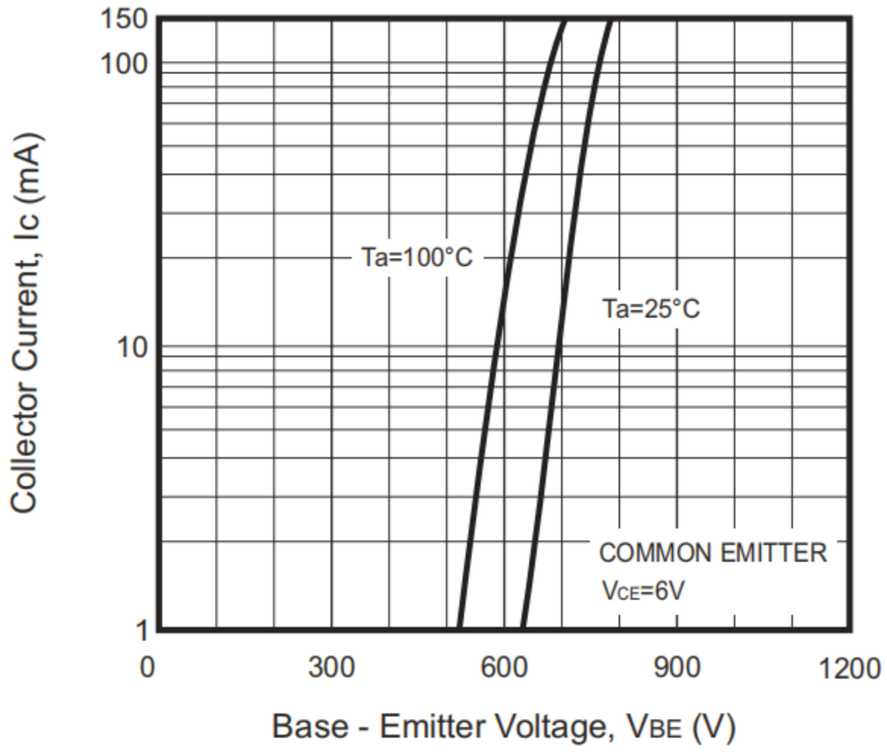


Fig.6 - C_{ob}/C_{ib} — V_{CB}/V_{EB}

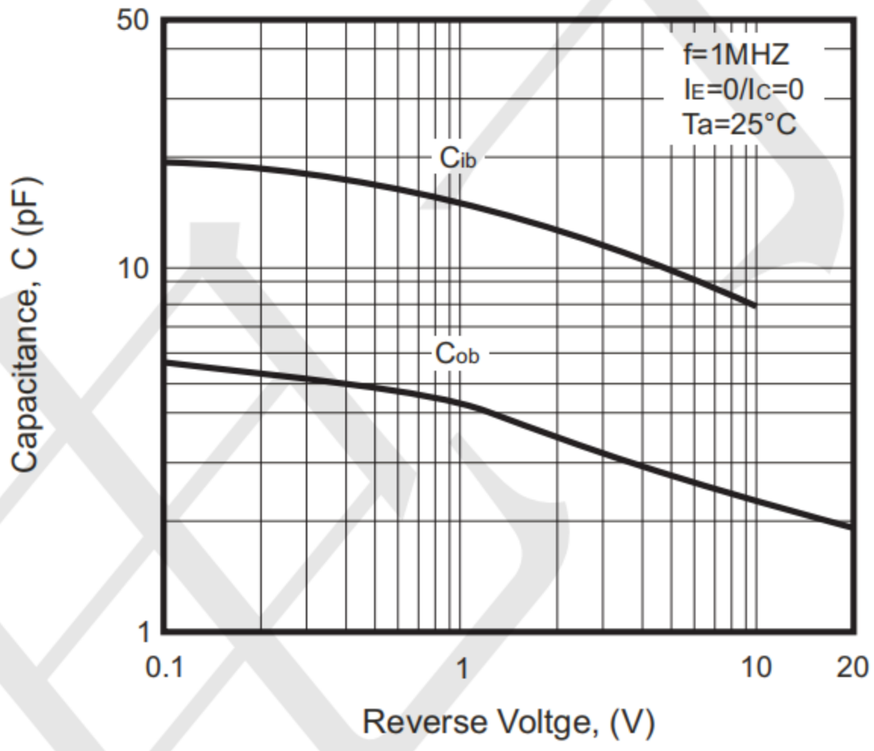


Fig.7 - F_T — I_C

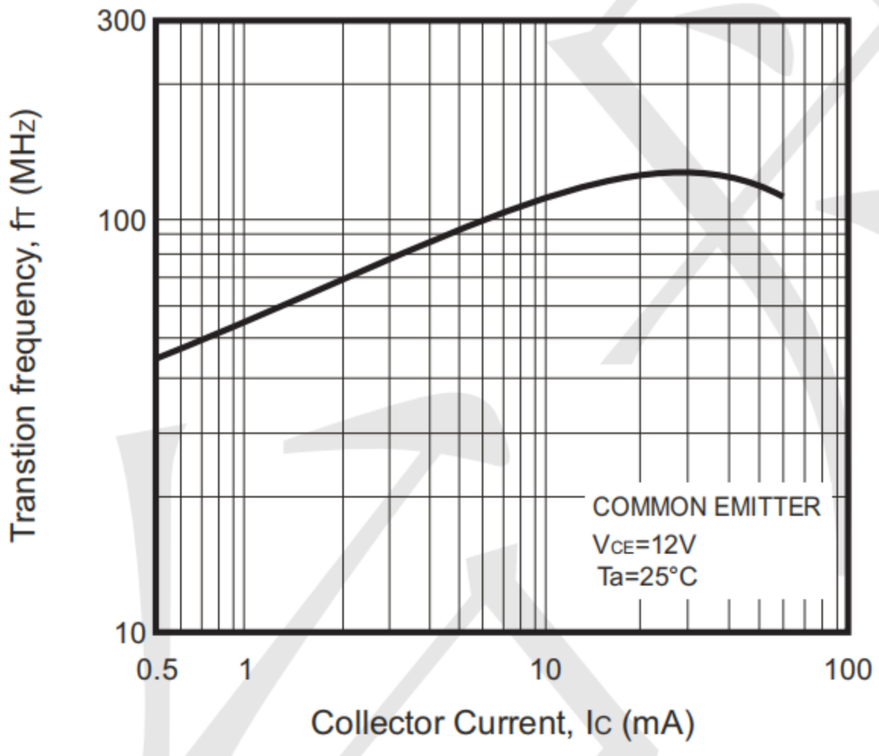
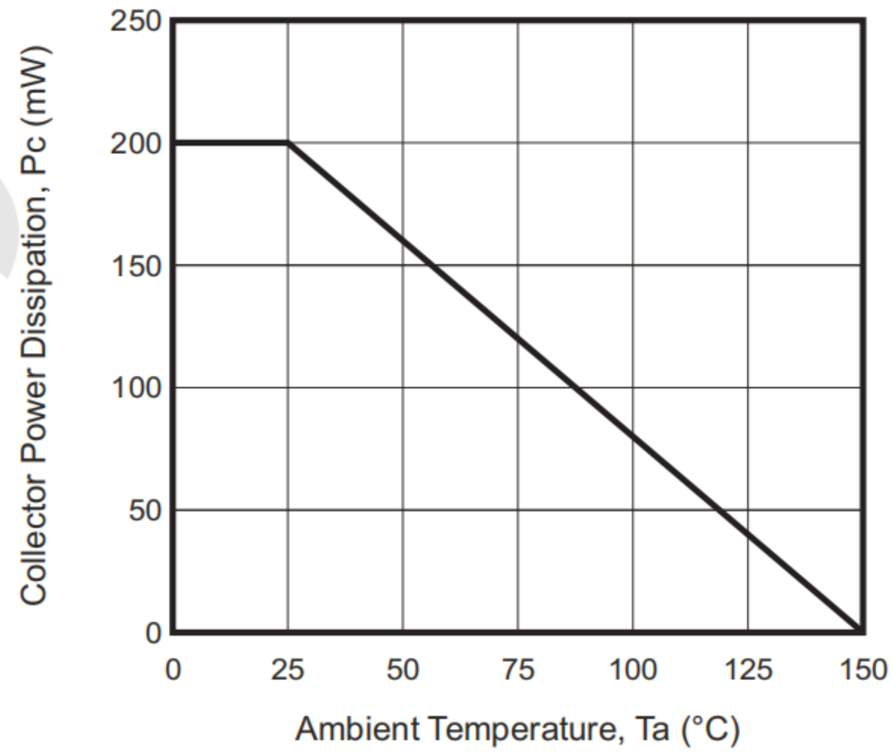
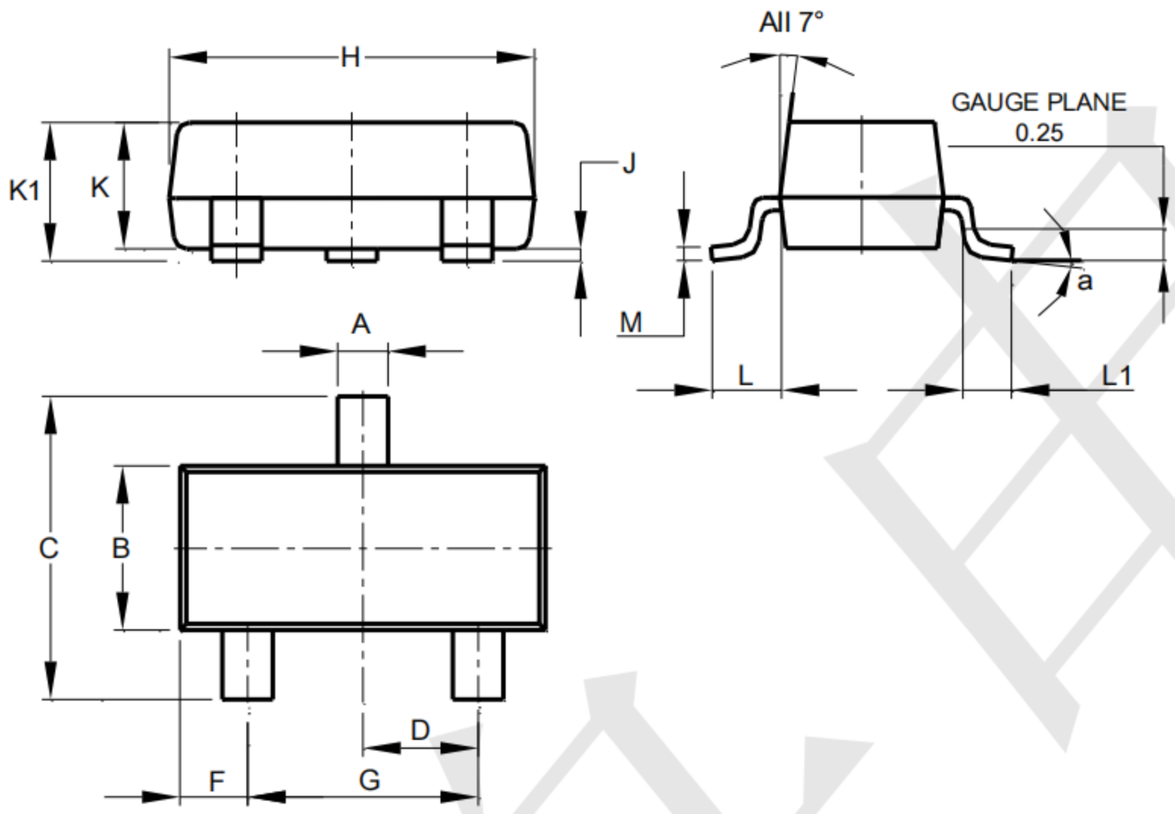


Fig.8 - P_C – Ta

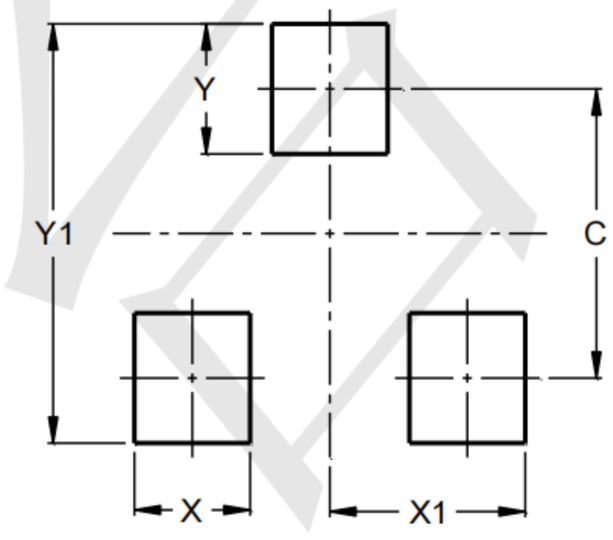


Outline Drawing - SOT23



SOT23			
Dim	Min	Max	Typ
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.890	1.00	0.975
K1	0.903	1.10	1.025
L	0.45	0.61	0.55
L1	0.25	0.55	0.40
M	0.085	0.150	0.110
a	0°	8°	--
All Dimensions in mm			

Land Pattern - SOT23



Dimensions	Value (in mm)
C	2.0
X	0.8
X1	1.35
Y	0.9
Y1	2.9