

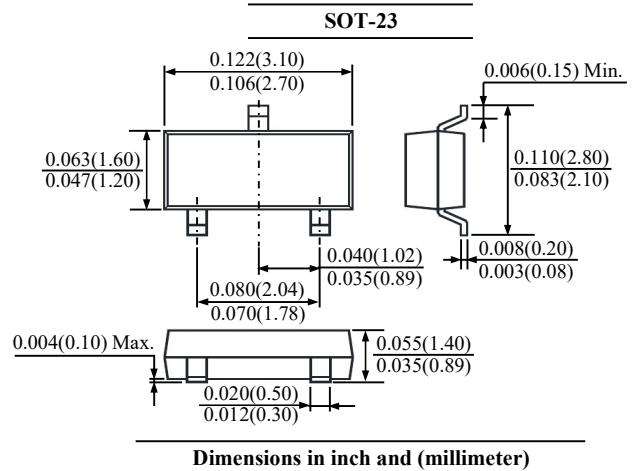
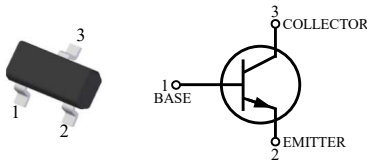


2SC2412QH / 2SC2412RH / 2SC2412SH

NPN TRANSISTORS

FEATURES

· Suffix "H" indicates Halogen-free parts, ex.2SC2412QH



Maximum Ratings ($T_A=25\text{ }^\circ\text{C}$ 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
Power Dissipation	P_D	200	mW
Thermal Resistance from Junction to Ambient (Note 1)	$R_{\theta JA}$	625	$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	T_J	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$

Note :

1. Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.

Electrical Characteristics ($T_A=25\text{ }^\circ\text{C}$ unless otherwise specified)

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
DC Current	Q	h_{FE}	120	-	270	-
	R		180	-	390	-
	S		270	-	560	-
Collector Cutoff Current	$V_{CB}=60\text{V}$	I_{CBO}	-	-	0.1	μA
Emitter Cutoff Current	$V_{EB}=7\text{V}$	I_{EBO}	-	-	0.1	μA
Collector Base Breakdown Voltage	$I_C=50\mu\text{A}$	$V_{(BR)CBO}$	60	-	-	V
Collector Emitter Breakdown Voltage	$I_C=1\text{mA}$	$V_{(BR)CEO}$	50	-	-	V
Emitter Base Breakdown Voltage	$I_E=50\mu\text{A}$	$V_{(BR)EBO}$	7	-	-	V
Collector Emitter Saturation Voltage	$I_C=50\text{mA}$, $I_B=5\text{mA}$	$V_{CE(sat)}$	-	-	0.4	V
Base Emitter Saturation Voltage	$I_C=100\text{mA}$, $I_B=5\text{mA}$	$V_{BE(sat)}$	-	-	1.0	V
Gain Bandwidth Product	$V_{CE}=12\text{V}$, $I_E=-2\text{mA}$, $f=100\text{MHz}$	f_T	-	180	-	MHz
Collector Output Capacitance	$V_{CB}=12\text{V}$, $f=1\text{MHz}$	C_{ob}	-	2.0	3.5	pF



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RATINGS AND CHARACTERISTIC CURVES

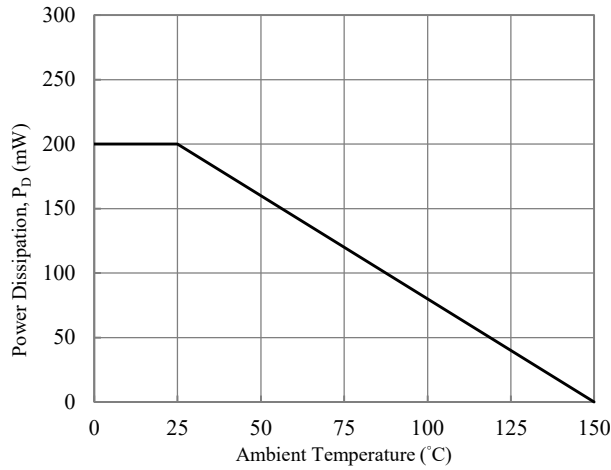


Fig. 1 Power Derating Curves

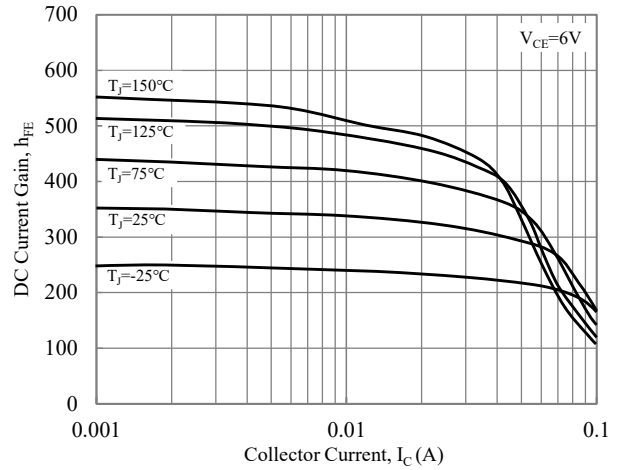


Fig. 2 Current Gain vs. Collector Current

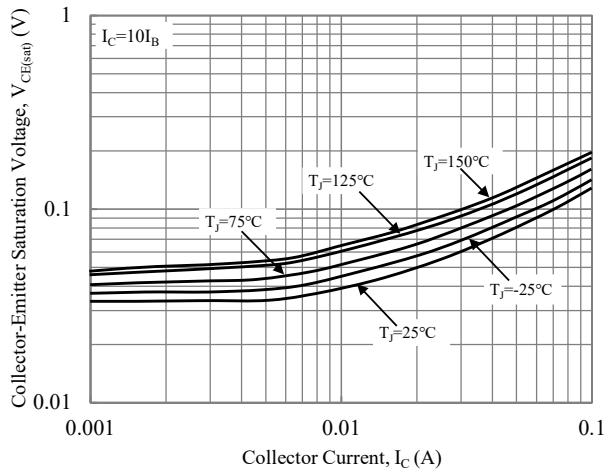


Fig. 3 Collector-Emitter Saturation Voltage vs. Collector Current

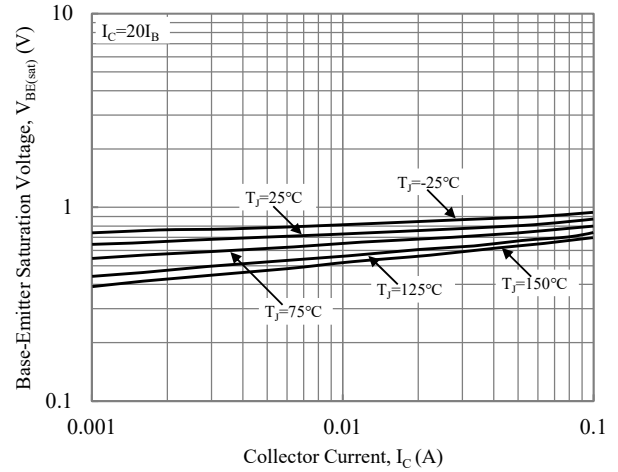


Fig. 4 Base-Emitter Saturation Voltage vs. Collector Current

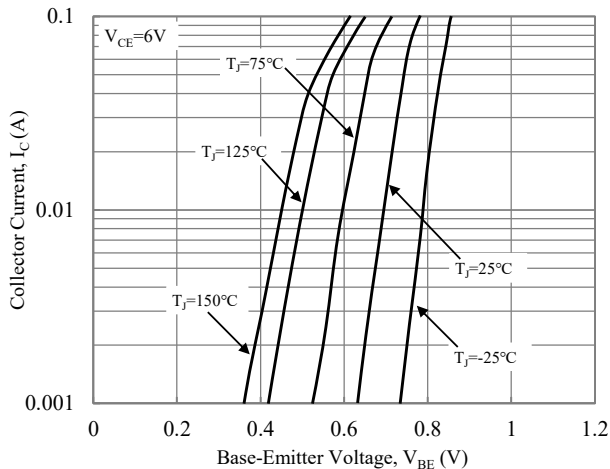


Fig. 5 Base-Emitter Voltage vs. Collector Current

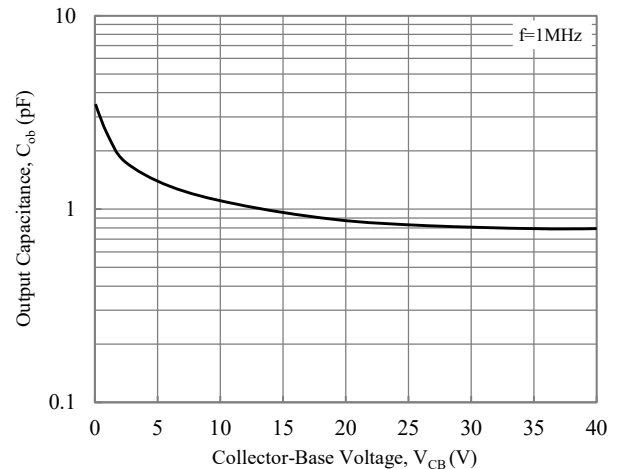


Fig. 6 Output Capacitance



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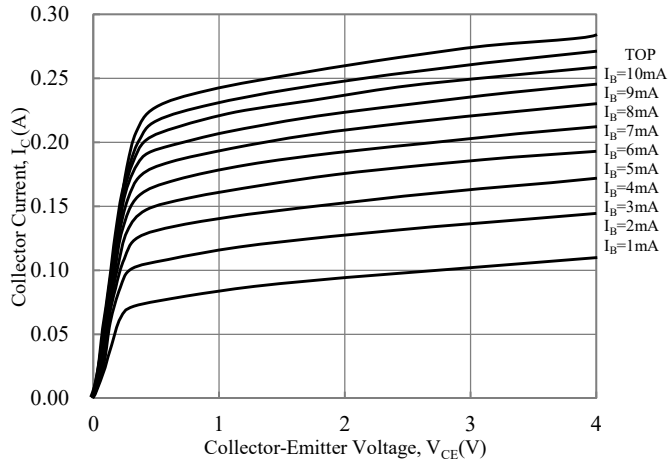


Fig. 7 Collector-Emitter Voltage vs. Collector Current