Features

- 2SC2412 and 2SA1037 are Housed Independently in a Package
- Mounting Cost and Area can be Cut in Half
- Transistor Elements Independent, Eliminating Interference
- Halogen Free. “Green” Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Dual Transistors

Maximum Ratings @ 25°C Unless Otherwise Specified

- Operating Junction Temperature Range: -55℃ to +150℃
- Storage Temperature Range: -55℃ to +150℃

NPN Transistor

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	7	V
Continuous Collector Current	I_C	150	mA
Power Dissipation	P_D	150	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	833	°C/W

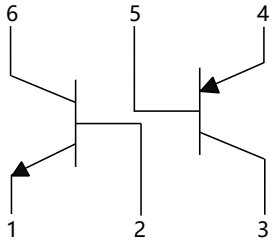
PNP Transistor

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	-60	V
Collector-Emitter Voltage	V_{CEO}	-50	V
Emitter-Base Voltage	V_{EBO}	-6	V
Continuous Collector Current	I_C	-150	mA
Power Dissipation	P_D	150	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	833	°C/W

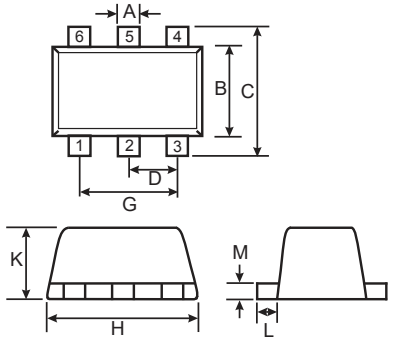
Note: 1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Marking: Z1

Internal Structure



SOT-563



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.006	0.011	0.15	0.30	
B	0.043	0.051	1.10	1.30	
C	0.059	0.067	1.50	1.70	
D	0.020		0.50		TYP.
G	0.035	0.043	0.90	1.10	
H	0.059	0.067	1.50	1.70	
K	0.022	0.026	0.55	0.65	
L	0.004	0.011	0.10	0.30	
M	0.004	0.007	0.10	0.18	

Electrical Characteristics @ T_A=25°C Unless Otherwise Specified

NPN Transistor

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	60			V	I_C=50μA, I_E=0
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	50			V	I_C=1mA, I_B=0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	7			V	I_E=50μA, I_C=0
Collector Cutoff Current	I_{CBO}			100	nA	V_{CB}=60V, I_E=0
Emitter Cutoff Current	I_{EBO}			100	nA	V_{EB}=7V, I_C=0
DC Current Gain	h_{FE}	120		560		V_{CE}=6V, I_C=1mA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.4	V	I_C=50mA, I_B=5mA
Transition Frequency	f_T		180		MHz	V_{CE}=12V, I_C=2mA, f=100MHz
Output Capacitance	C_{ob}		2	3.5	pF	V_{CB}=12V, I_E=0, f=1MHz

PNP Transistor

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-60			V	I_C=-50μA, I_E=0
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-50			V	I_C=-1mA, I_B=0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-6			V	I_E=-50μA, I_C=0
Collector Cutoff Current	I_{CBO}			-100	nA	V_{CB}=-60V, I_E=0
Emitter Cutoff Current	I_{EBO}			-100	nA	V_{EB}=-6V, I_C=0
DC Current Gain	h_{FE}	120		560		V_{CE}=-6V, I_C=-1mA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-0.50	V	I_C=-50mA, I_B=-5mA
Transition Frequency	f_T		140		MHz	V_{CE}=-12V, I_C=-2mA, f=100MHz
Output Capacitance	C_{ob}			5	pF	V_{CB}=-12V, I_E=0, f=1MHz

Curve Characteristics(NPN)

Fig. 1 - Static Characteristics

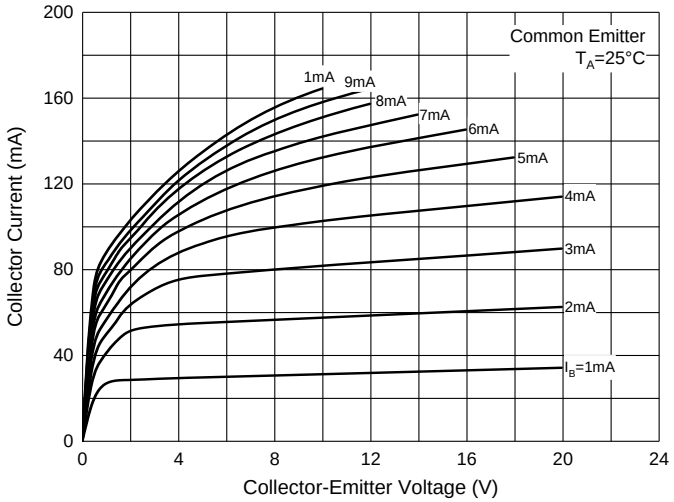


Fig. 2 - DC Current Gain Characteristics

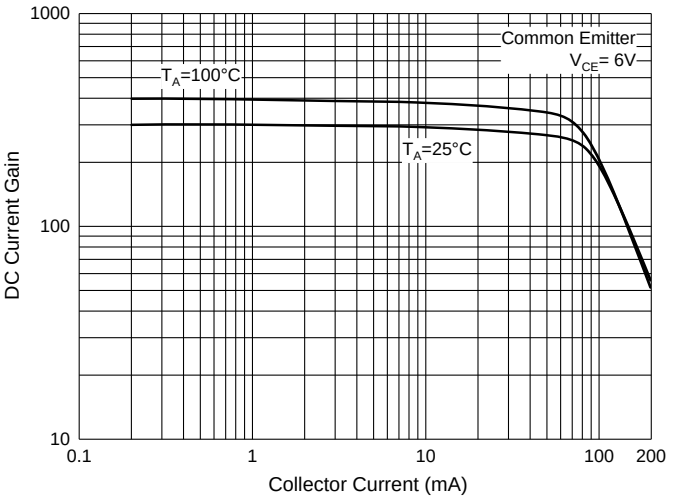


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

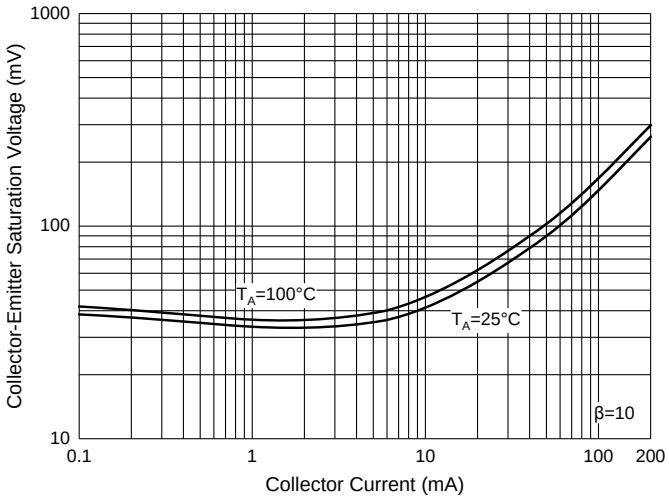


Fig. 4 - Base-Emitter Voltage Characteristics

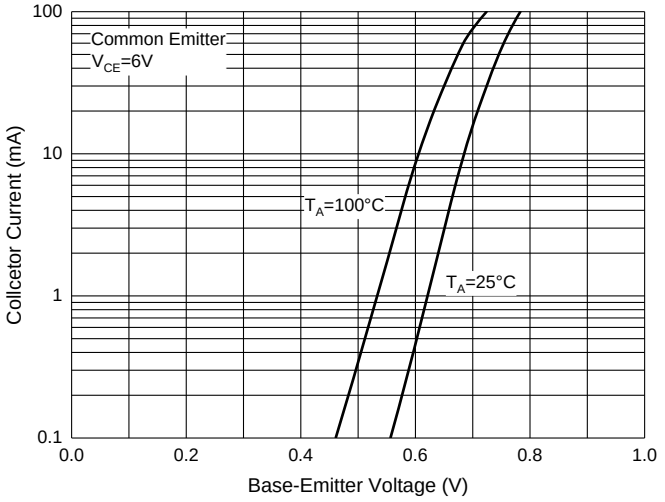
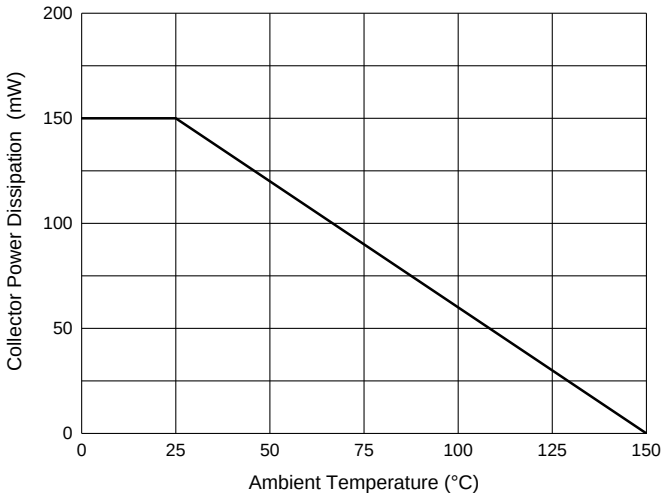


Fig. 5 - Collector Power Derating Curve



Curve Characteristics(PNP)

Fig. 6 - Static Characteristics

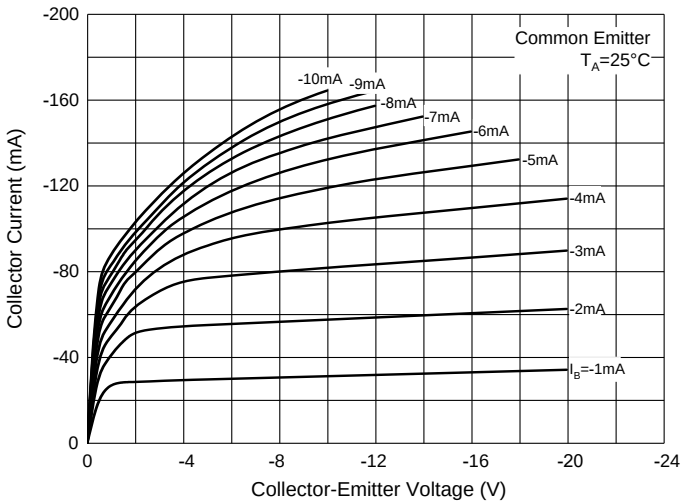


Fig. 7 - DC Current Gain Characteristics

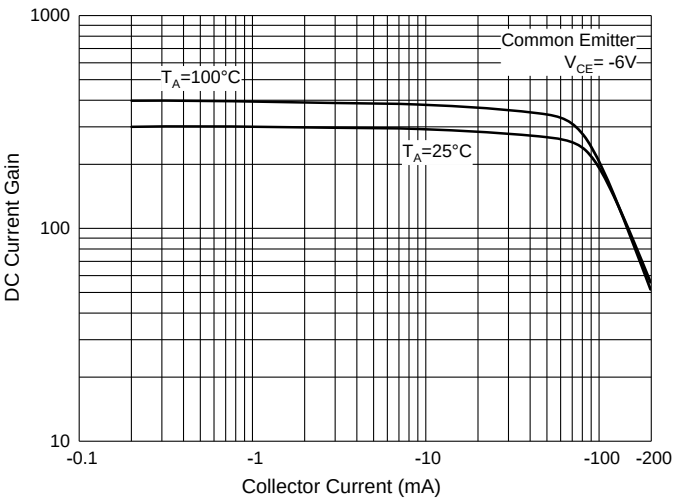


Fig. 8 - Collector-Emitter Saturation Voltage Characteristics

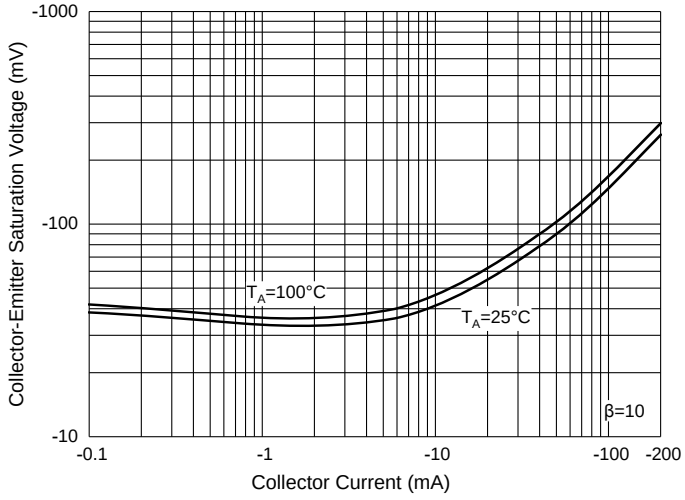


Fig. 9 - Base-Emitter Voltage Characteristics

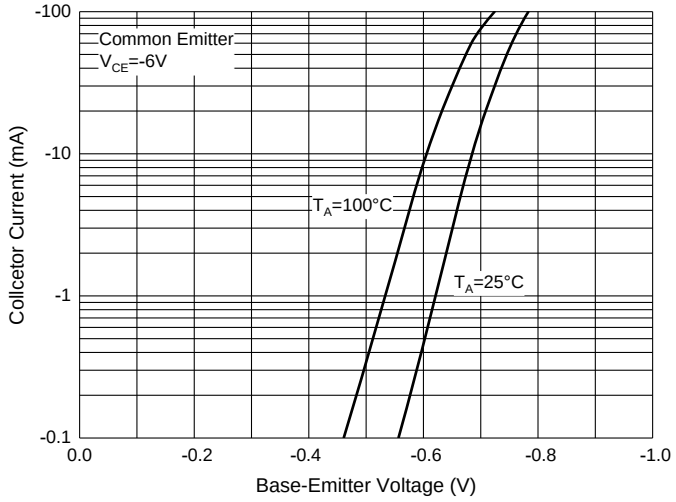
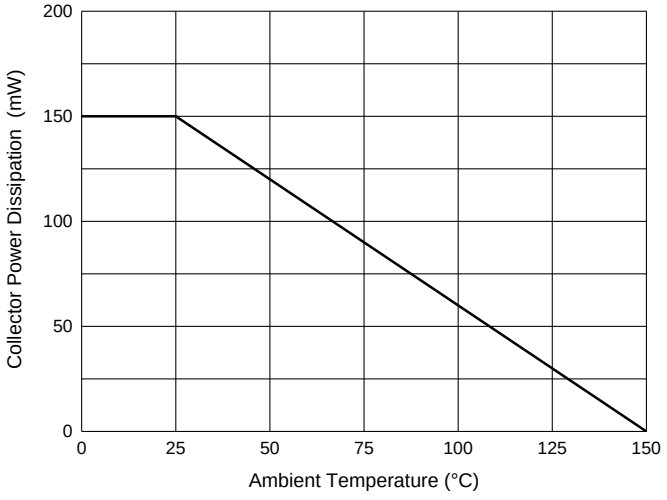


Fig. 10 - Collector Power Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel
Part Number-TPQ2	Tape&Reel: 3Kpcs/Reel

For packaging details, go to our website at https://www.mccsemi.com/pdf/ProductPackaging/SOT-563%20Package.pdf

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