CHENMKO ENTERPRISE CO.,LTD

SURFACE MOUNT

Power Management (Dual Transistor)

Tr1:VOLTAGE 50 Volts CURRENT 150 mAmpere

DTr2:VOLTAGE 50 Volts CURRENT 100 mAmpere

CHEMF19PT

Lead free devices

APPLICATION

* Power management circuit

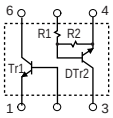
FEATURE

* Small surface mounting type. (SOT-563)
* Power switching circuit in a single package.
* Mounting cost and area can be cut in half.
* Both the 2SC4617 & CHDTC123E in one package.
* Built in bias resistor(R1=2.2kΩ, Typ.)

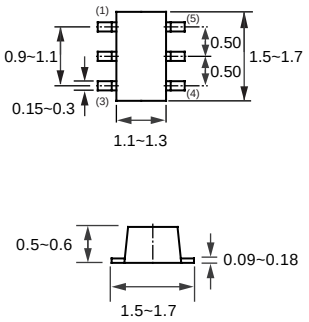
MARKING

* FC

CIRCUIT



SOT-563



Dimensions in millimeters

SOT-563

2SC4617 LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	Collector-base voltage		–	60	V
V_{CEO}	Collector-emitter voltage		–	50	V
V_{EBO}	Emitter-base voltage		–	7	V
I_C	DC Output current		–	150	mA
P_C	Total power dissipation	NOTE.1	–	150	mW
T_{STG}	Storage temperature		–55	+150	°C
T_J	Junction temperature		–	150	°C

Note

1. 120mW per element must not be exceeded.

CHDTC123E LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CC}	Supply voltage		–	50	V
V_{IN}	Input voltage		-10	+20	V
I_O	DC Output current		–	100	mA
$I_{C(Max.)}$		NOTE.1	–	100	
P_C	Power dissipation	NOTE.2	–	150	mW
T_{STG}	Storage temperature		–55	+150	°C
T_J	Junction temperature		–	150	°C

Note

1. Characteristics of built-in transistor.
2. Each terminal mounter on a recommended land.

2SC4617 CHARACTERISTICS

T_{amb} = 25 °C unless otherwise speciÞed.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
BV_{CEO}	Collector-emitter breakdown voltage	I_C=50uA	60	–	–	V
BV_{CBO}	Collector-base breakdown voltage	I_C=1mA	50	–	–	V
BV_{EBO}	Emitter-base breakdown voltage	I_E=50uA	7	–	–	V
I_{CBO}	Collector cut-off current	V_{CB}=60V	–	–	100	nA
I_{EBO}	Emitter cut-off current	V_{EB}=7V	–	–	100	nA
h_{FE}	DC current gain	V_{CE}=6V,I_C=1mA	120	–	560	–
$V_{CE(sat)}$	Collector-emitter saturation voltage	I_C=50mA,I_B=5mA	–	–	0.4	V
Cob	Collector output capacitance	V_{CB}=12V,I_E=0mA,f=1MHZ	–	2	3.5	pF
f_T	Transition frequency	V_{CE}=12V,I_E=-2mA,f=100MHZ	–	180	–	MHz

Note

1.Pulse test: tp≤300uS; δ≤0.02.

CHDTC123E CHARACTERISTICS

T_{amb} = 25 °C unless otherwise speciÞed.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$V_{I(off)}$	Input off voltage	I_O=100uA; V_{CC}=5.0V	0.5	–	–	V
$V_{I(on)}$	Input on voltage	I_O=20mA; V_O=0.3V	–	–	3.0	V
$V_{O(on)}$	Output voltage	I_O=10mA; I_I=0.5mA	–	0.1	0.3	V
I_I	Input current	V_I=5V	–	–	3.8	mA
$I_{C(off)}$	Output current	V_I=0V; V_{CC}=50V	–	–	0.5	uA
G1	DC current gain	I_O=20mA; V_O=5.0V	20	–	–	–
R_1	Input resistor		–	2.2	–	KΩ
R_2/R_1	Resistor ratio		0.8	1.0	1.2	–
f_T	Transition frequency	I_E=-5mA, V_{CE}=10.0V f=100MHz	–	250	–	MHz

Note

Pulse test: tp≤300uS; δ≤0.02.

RATING CHARACTERISTIC CURVES (CHEMF19PT)

2SC4617 Typical Electrical Characteristics

Fig.1 Grounded emitter propagation characteristics

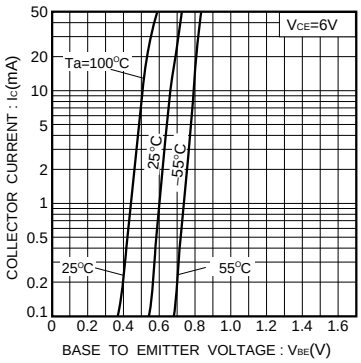


Fig.2 Grounded emitter output characteristics (1)

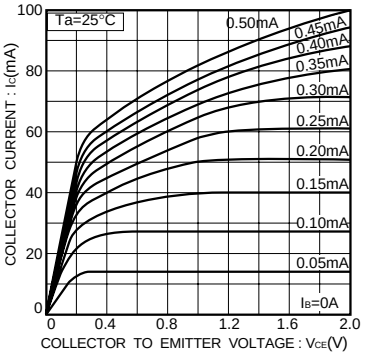


Fig.3 Grounded emitter output characteristics (2)

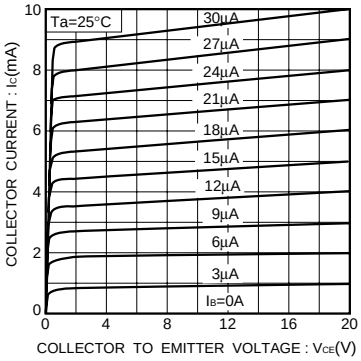


Fig.4 Collector-emitter saturation voltage vs. collector current

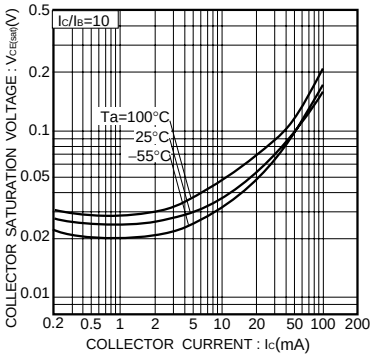


Fig.5 DC current gain vs. collector current

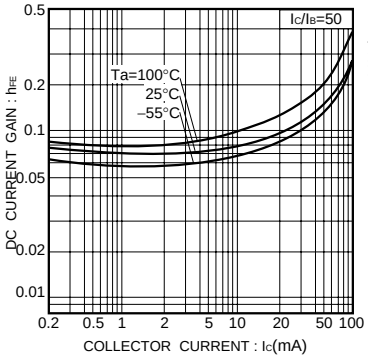
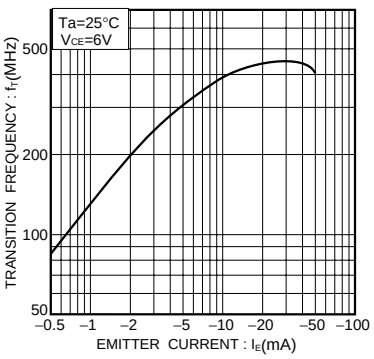


Fig. 6 Gain bandwidth product vs. emitter current



RATING CHARACTERISTIC CURVES (CHEMF19PT)

CHDTC123E Typical Electrical Characteristics

Fig.1 Input voltage vs. output current (ON characteristics)

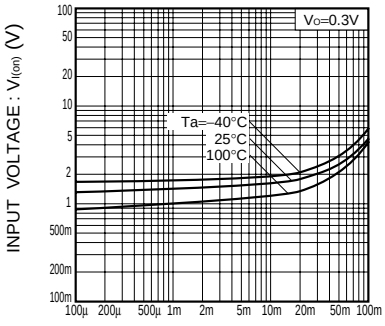


Fig.2 Output current vs. input voltage (OFF characteristics)

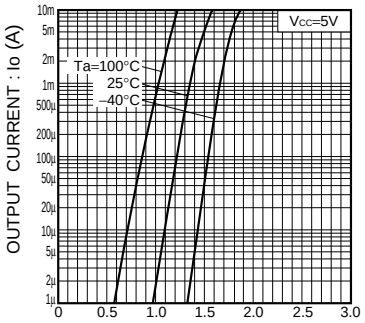


Fig.3 DC current gain vs. output current

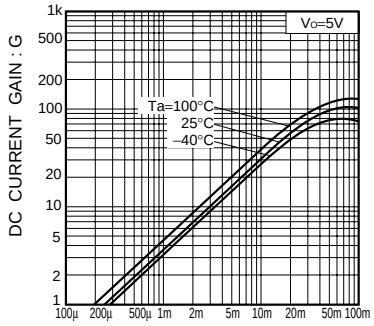


Fig.4 Output voltage vs. output current

