CHENMKO ENTERPRISE CO.,LTD

CHEMZ8PT

SURFACE MOUNT
Dual Silicon Transistor

NPN:VOLTAGE 60 Volts CURRENT 150 mAmpere
PNP:VOLTAGE 15 Volts CURRENT 500 mAmpere

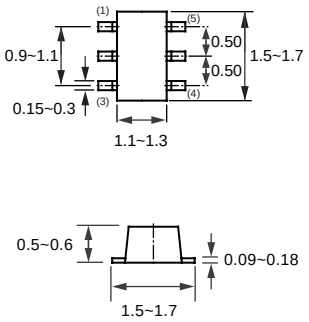
Lead free devices

APPLICATION
* Small Signal Amplifier .

FEATURE
* Small surface mounting type. (SOT-563)
* P_C= 150mW (Total),120mW per element must not be exceeded.
* High saturation current capability.
* Both the 2SC2412K & 2SA2018 in one package.
* NPN / PNP Silicon Transistor

MARKING
* Z8

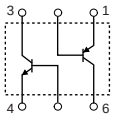
SOT-563



Dimensions in millimeters

SOT-563

CIRCUIT



2SC2412K LIMITING VALUES

MAXIMUM RATINGES (At T_A = 25°C unless otherwise noted)

RATINGS	CONDITION	SYMBOL	MIN.	MAX.	UNITS
Collector - Base Voltage	Open Emitter	V_{CBO}	-	60	Volts
Collector - Emitter Voltage	Open Base	V_{CEO}	-	50	Volts
Emitter - Base Voltage	Open Collector	V_{EBO}	-	7	Volts
Collector Current DC		I_C	-	150	mAmps
Peak Collector Current		I_{CM}	-	150	mAmps
Peak Base Current		I_{BM}	-	15	mAmps
Total Power Dissipation	$T_A \leq 25^oC$; Note 1	P_{TOT}	-	150	mW
Storage Temperature		T_{STG}	-55	+150	°C
Junction Temperature		T_J	-	+150	°C
Operating Ambient Temperature		T_{AMB}	-55	+150	°C

Note

1. Transistor mounted on ceramic substrate 50mmX50mmx0.8t.

2SA2018 LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	Collector-base voltage		–	-15	V
V_{CEO}	Collector-emitter voltage		-	-12	V
V_{EBO}	Emitter-base voltage		-	-6	V
I_C	DC Output current		-	-500	mA
I_{CP}		NOTE.1	-	-1000	
P_C	power dissipation		-	150	mW
T_{STG}	Storage temperature		-55	+150	^{O}C
T_J	Junction temperature		-	150	^{O}C

Note

1. Single Pulse Pw=1ms

2SC2412K CHARACTERISTICS

ELECTRICAL CHARACTERISTICS (At T_A = 25^{o}C unless otherwise noted)

PARAMETERS	CONDITION	SYMBOL	MIN.	TYPE	MAX.	UNITS
Collector-base breakdown voltage	I_C=50uA	BV_{CBO}	60	-	-	Volts
Collector-emitter breakdown voltage	I_C=1mA	BV_{CEO}	50	-	-	Volts
Emitter-base breakdown voltage	I_E=50uA	BV_{EBO}	7	-	-	Volts
Collector Cut-off Current	I_E=0; V_{CB}=60V	I_{CBO}	-	-	0.1	
Emitter Cut-off Current	I_C=0; V_{EB}=7V	I_{CEO}	-	-	0.1	uA
DC Current Gain	V_{CE}=6V I_C=1mA	h_{FE}	120	-	560	
Collector-Emitter Saturation Voltage	I_C=50mA; I_B=5mA	V_{CEsat}	-	-	0.4	Volts
Output Collector Capacitance	I_E=ie=0; V_{CB}=12V; f=1MHz	C_{ob}	-	2	3.5	pF
Transition Frequency	I_C=2mA; V_{CE}=12V; f=100MHz	f_T	-	180	-	MHz

2SA2018 CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
BV_{CEO}	Collector-emitter breakdown voltage	IC=-1mA		-	-12	V
BV_{CBO}	Collector-base breakdown voltage	IC=-10uA	-15	-	-	V
BV_{EBO}	Emitter-base breakdown voltage	IE=-10uA	-6	-		V
I_{CBO}	Collector cut-off current	VCB=-15V	-	-	-100	nA
I_{EBO}	Emitter cut-off current	VEB=-6V	-	-	-100	nA
h_{FE}	DC current gain	VCE=-2V,IC=-10mA	270	-	680	–
$V_{CE(sat)}$	Collector-emitter saturation voltage	IC=-200mA,IB=-10mA	-	-100	-250	mV
C_{ob}	Collector output capacitance	VCB=-10V,IE=0mA,f=1MHZ	-	6.5	-	pF
f_T	Transition frequency	VCE=-2V,IE=10mA,f=100MHZ	-	260	-	MHz

RATING CHARACTERISTIC CURVES (CHEMZ8PT)

2SC2412K Typical Electrical Characteristics

Fig.1 Grounded emitter propagation characteristics

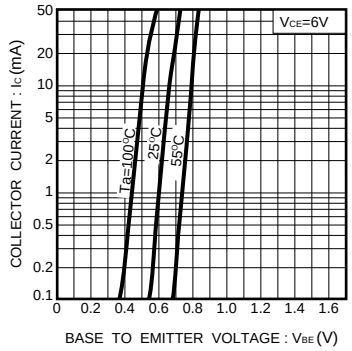


Fig.2 Grounded emitter output characteristics

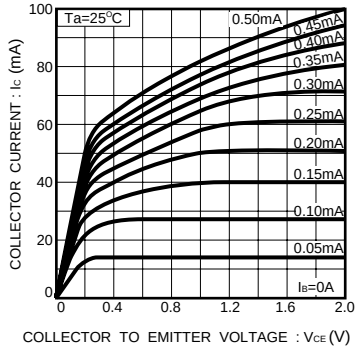


Fig.3 DC current gain vs. collector current (1)

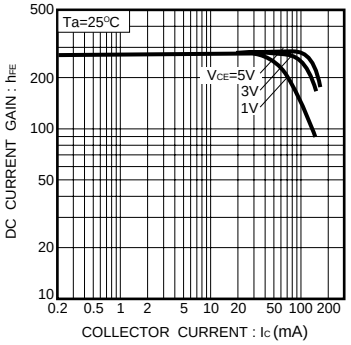


Fig.4 DC current gain vs. collector current (2)

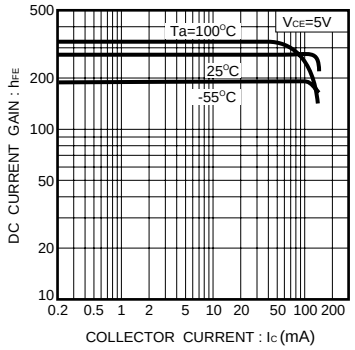


Fig. 5 Collector-emitter saturation voltage vs. collector current

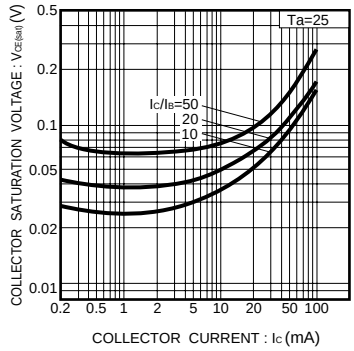


Fig.6 Collector-emitter saturation voltage vs. collector current

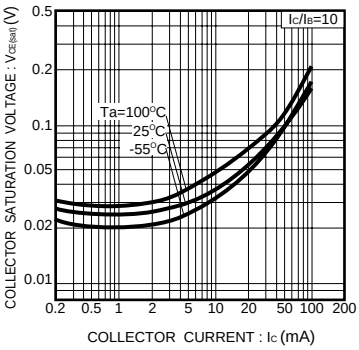


Fig.7 Gain bandwidth product vs. emitter current

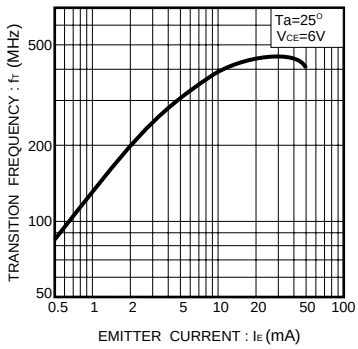
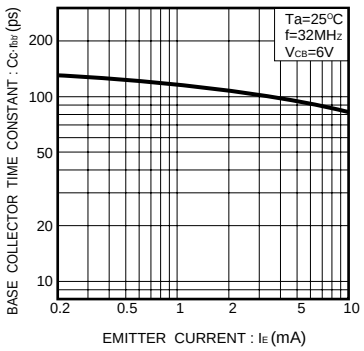


Fig.8 Base-collector time constant vs. emitter current



RATING CHARACTERISTIC CURVES (CHEMZ8PT)

2SA2018 Typical Electrical Characteristics

Fig.1 Ground emitter propagation characteristics

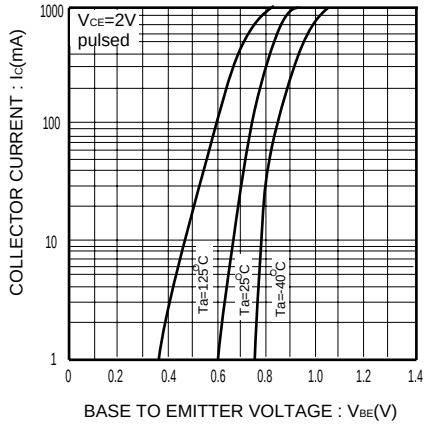


Fig.2 DC current gain vs. collector current

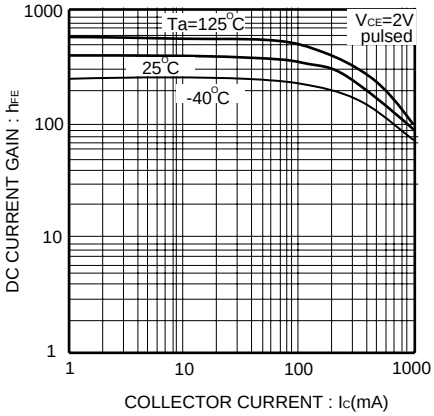


Fig.3 Collector-emitter saturation voltage vs. collector current (I)

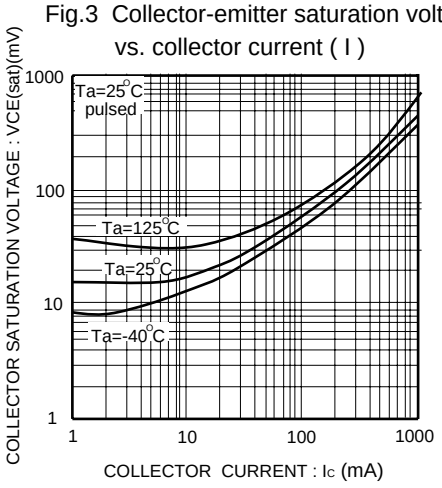
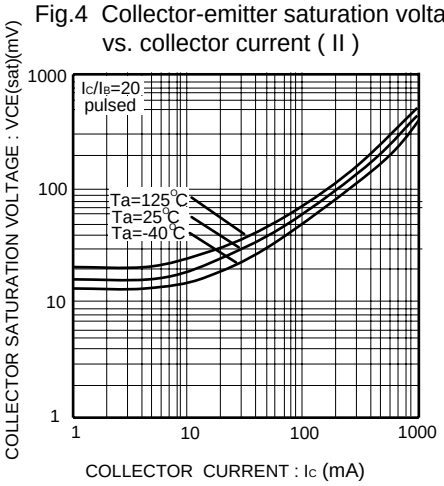


Fig.4 Collector-emitter saturation voltage vs. collector current (II)



RATING CHARACTERISTIC CURVES (CHEMZ8PT)

2SA2018 Typical Electrical Characteristics

Fig.5 Base-emitter saturation voltage vs. collector current

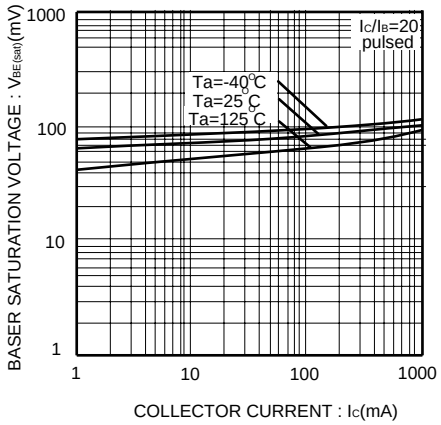


Fig.6 Gain bandwidth product vs. collector current

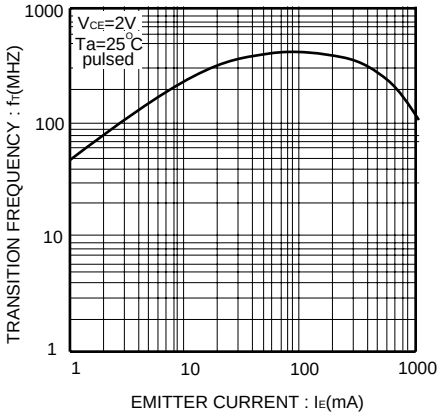


Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage