



CHENMKO ENTERPRISE CO.,LTD

Halogens free devices

**SURFACE MOUNT
Dual Silicon Transistor**

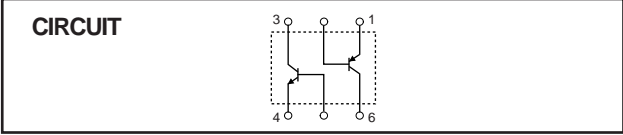
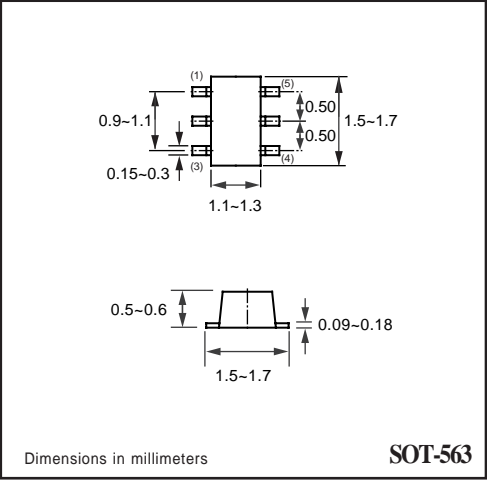
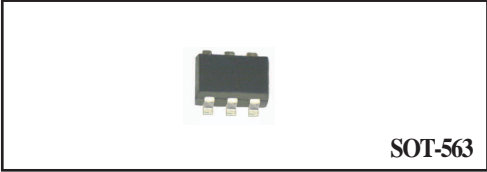
NPN:VOLTAGE 60 Volts CURRENT 150 mAmpere
PNP:VOLTAGE 15 Volts CURRENT 500 mAmpere

CHEMZ8GP

APPLICATION
* Small Signal Amplifier .

FEATURE
* Small surface mounting type. (SOT-563)
* Pc= 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



2SC2412K LIMITING VALUES

MAXIMUM RATINGS (At TA = 25°C unless otherwise noted)

RATINGS	CONDITION	SYMBOL	MIN.	MAX.	UNITS
Collector - Base Voltage	Open Emitter	VCBO	-	60	Volts
Collector - Emitter Voltage	Open Base	VCEO	-	50	Volts
Emitter - Base Voltage	Open Collector	VEBO	-	7	Volts
Collector Current DC		IC	-	150	mAmps
Peak Collector Current		ICM	-	150	mAmps
Peak Base Current		IBM	-	15	mAmps
Total Power Dissipation	TA ≤ 25°C; Note 1	PTOT	-	150	mW
Storage Temperature		TSTG	-55	+150	°C
Junction Temperature		TJ	-	+150	°C
Operating Ambient Temperature		TAMB	-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 _{CB0}	Collector-base voltage		-	-15	V
V _{CE0}	Collector-emitter voltage		-	-12	V
V _{EB0}	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	°C
T _J	Junction temperature		-	150	°C

Note

1. Single Pulse Pw=1ms

2SC2412K CHARACTERISTICS

ELECTRICAL CHARACTERISTICS (At T_A = 25°C unless otherwise noted)

PARAMETERS	CONDITION	SYMBOL	MIN.	TYPE	MAX.	UNITS
Collector-base breakdown voltage	I _c =50uA	BV _{CB0}	60	-	-	Volts
Collector-emitter breakdown voltage	I _c =1mA	BV _{CE0}	50	-	-	Volts
Emitter-base breakdown voltage	I _E =50uA	BV _{EB0}	7	-	-	Volts
Collector Cut-off Current	I _E =0; V _{CB} =60V	I _{CB0}	-	-	0.1	
Emitter Cut-off Current	I _c =0; V _{EB} =7V	I _{CE0}	-	-	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 =I _E =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 specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
BV _{CE0}	Collector-emitter breakdown voltage	I _C =-1mA		-	-12	V
BV _{CB0}	Collector-base breakdown voltage	I _C =-10uA	-15	-	-	V
BV _{EB0}	Emitter-base breakdown voltage	I _E =-10uA	-6	-	-	V
I _{CB0}	Collector cut-off current	V _{CB} =-15V	-	-	-100	nA
I _{EB0}	Emitter cut-off current	V _{EB} =-6V	-	-	-100	nA
h _{FE}	DC current gain	V _{CE} =-2V, I _C =-10mA	270	-	680	-
V _{CE(sat)}	Collector-emitter saturation voltage	I _C =-200mA, I _B =-10mA	-	-100	-250	mV
C _{ob}	Collector output capacitance	V _{CB} =-10V, I _E =0mA, f=1MHZ	-	6.5	-	pF
f _T	Transition frequency	V _{CE} =-2V, I _E =10mA, f=100MHZ	-	260	-	MHz

RATING CHARACTERISTIC CURVES (CHEMZ8GP)

2SC2412K Typical Electrical Characteristics

Fig.1 Grounded emitter propagation characteristics

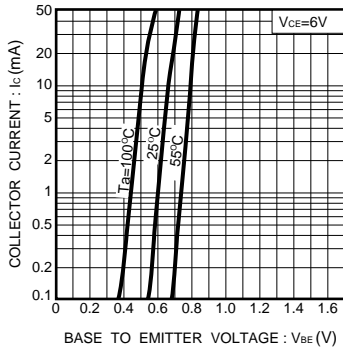


Fig.2 Grounded emitter output characteristics

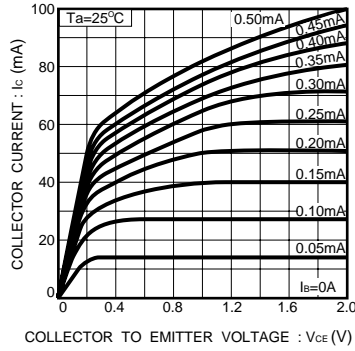


Fig.3 DC current gain vs. collector current (1)

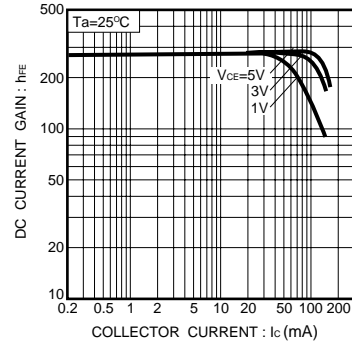


Fig.4 DC current gain vs. collector current (2)

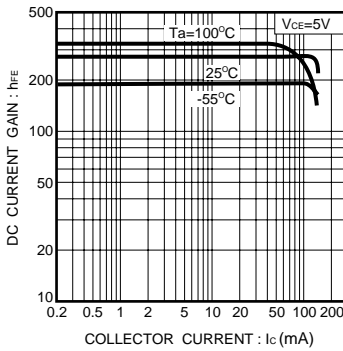


Fig.5 Collector-emitter saturation voltage vs. collector current

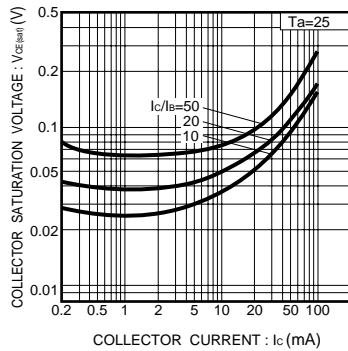


Fig.6 Collector-emitter saturation voltage vs. collector current

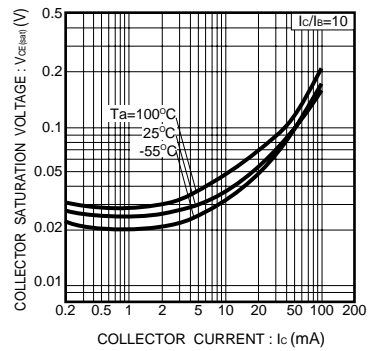


Fig.7 Gain bandwidth product vs. emitter current

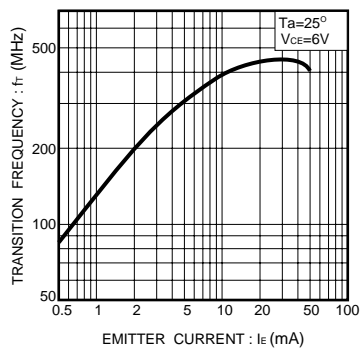
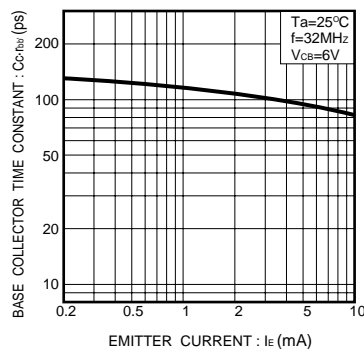


Fig.8 Base-collector time constant vs. emitter current



RATING CHARACTERISTIC CURVES (CHEMZ8GP)

2SA2018 Typical Electrical Characteristics

Fig.1 Ground emitter propagation characteristics

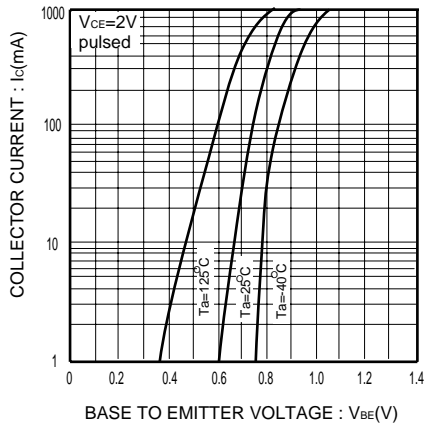


Fig.2 DC current gain vs. collector current

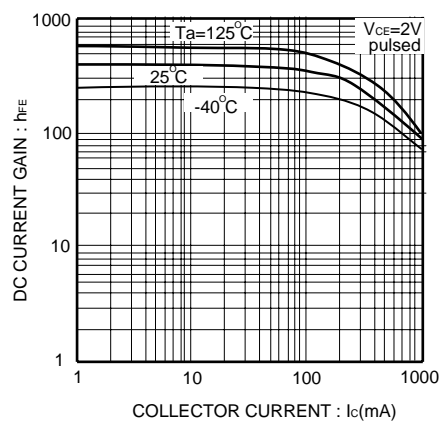


Fig.3 Collector-emitter saturation voltage vs. collector current (I)

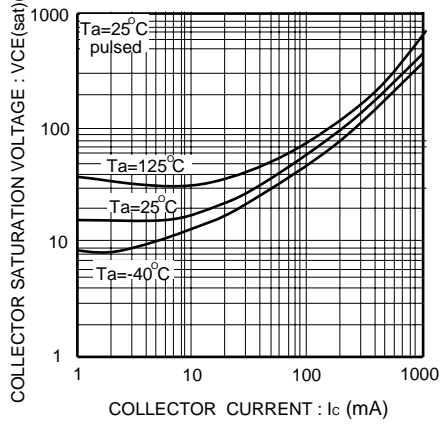
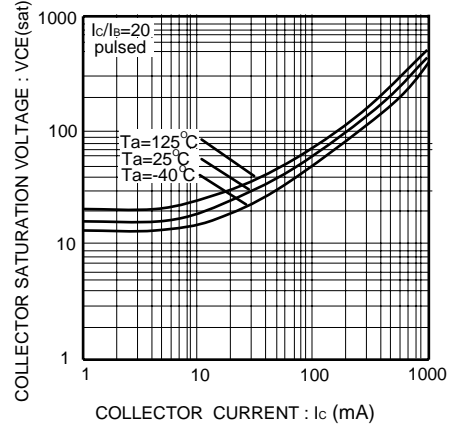


Fig.4 Collector-emitter saturation voltage vs. collector current (II)



RATING CHARACTERISTIC CURVES (CHEMZ8GP)

2SA2018 Typical Electrical Characteristics

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

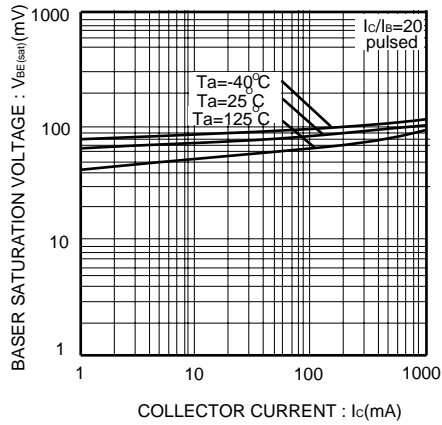


Fig.6 Gain bandwidth product vs. collector current

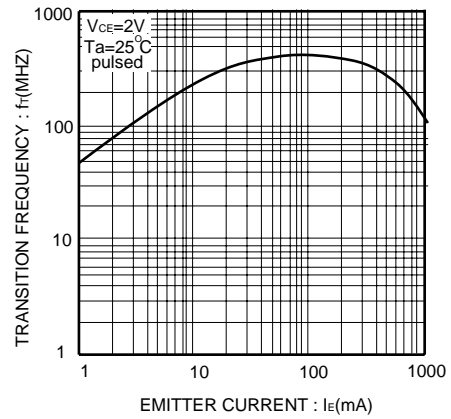


Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

