



CHENMKO ENTERPRISE CO.,LTD

Halogens free devices

**SMALL FLAT
NPN Epitaxial Transistor**

VOLTAGE 30 Volts CURRENT 3 Ampere

CH882GP

APPLICATION

* Power driver and Dc to DC convertor .

FEATURE

- * Small flat package. (DPAK)
- * Low saturation voltage $V_{CE(sat)}=0.5V(max.)(I_c=2A)$
- * High speed switching time: $t_{stg}= 1.0\mu Sec$ (typ.)
- * $PC= 1.5 W$ (mounted on ceramic substrate).
- * High saturation current capability.

CONSTRUCTION

* NPN Switching Transistor

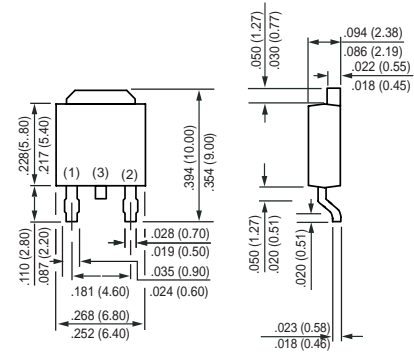
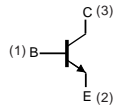
MARKING

* hFE Classification Q: Q82
P: 882
E: E82



DPAK/TO-252

CIRCUIT



- 1 Base
- 2 Emitter
- 3 Collector (Heat Sink)

Dimensions in inches and (millimeters)

DPAK

MAXIMUM RATINGS (At $T_A = 25^{\circ}C$ unless otherwise noted)

RATINGS	CONDITION	SYMBOL	MIN.	MAX.	UNITS
Collector - Base Voltage	Open Emitter	V_{CB0}	-	40	Volts
Collector - Emitter Voltage	Open Base	V_{CE0}	-	30	Volts
Emitter - Base Voltage	Open Collector	V_{EB0}	-	5	Volts
Collector Current DC		I_c	-	3	Amps
Peak Collector Current		I_{CM}	-	3	Amps
Peak Base Current		I_{BM}	-	0.5	Amps
Total Power Dissipation	$T_A \leq 25^{\circ}C$; Note 1	P_{TOT}	-	2000	mW
Storage Temperature		T_{STG}	-55	+150	$^{\circ}C$
Junction Temperature		T_J	-	+150	$^{\circ}C$
Operating Ambient Temperature		T_{AMB}	-55	+150	$^{\circ}C$

Note

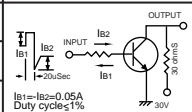
1. Transistor mounted on ceramic substrate 50mmX50mmX0.8t.
2. Measured at Pulse Width 300 us, Duty Cycle 2%.

RATING CHARACTERISTIC CURVES (CH882GP)

CHARACTERISTICS (At $T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETERS	CONDITION	SYMBOL	MIN.	TYPE	MAX.	UNITS
Collector Cut-off Current	$I_E=0; V_{CB}=30\text{V}$	I_{CBO}	-	-	1.0	μA
Emitter Cut-off Current	$I_C=0; V_{EB}=3\text{V}$	I_{EBO}	-	-	1.0	μA
DC Current Gain	$V_{CE}=2\text{V}$; Note 1 $I_C=0.02\text{A}$ $I_C=1.0\text{A}$; Note 2	h_{FE}	30 100	- 160	- 500	
Collector-Emitter Saturation Voltage	$I_C=2\text{A}; I_B=0.2\text{A}$	V_{CEsat}	-	0.3	0.5	Volts
Base-Emitter Saturation Voltage	$I_C=2\text{A}; I_B=-0.2\text{A}$	V_{BEsat}	-	1.0	2.0	Volts
Collector Capacitance	$I_E=I_C=0; V_{CB}=10\text{V};$ $f=1\text{MHz}$	C_C	-	55	-	pF
Transition Frequency	$I_C=0.02\text{A}; V_{CE}=20\text{V};$ $f=100\text{MHz}$	f_T	-	100	-	MHz

SWITCHING TIMES (Between 10% and 90% levels)

PARAMETERS	CONDITION	SYMBOL	MIN.	TYPE	MAX.	UNITS
Turn-on Time		t_{on}	-	0.1	-	μSec
Storage Time		t_s	-	1.0	-	μSec
Fall Time		$I_{B1}=I_{B2}=0.05\text{A}$ Duty cycle $\leq 1\%$	t_f	-	0.1	-

Note :

1. Pulse test: $t_p \leq 300\mu\text{Sec}$; $\delta \leq 0.02$.
2. $h_{FE}(2)$ Classification Q: 100 to 200, P: 160 to 320, E: 250 to 500.

RATING CHARACTERISTIC CURVES (CH882GP)

Typical Electrical Characteristics

Figure 1. C_c - Reverse V_{cb}

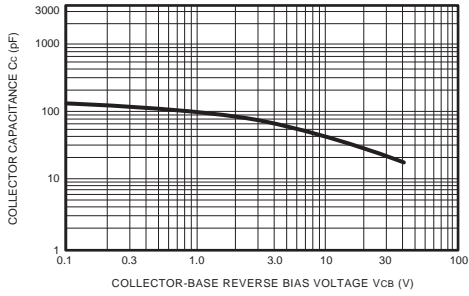


Figure 2. Cutoff Frequency - I_c

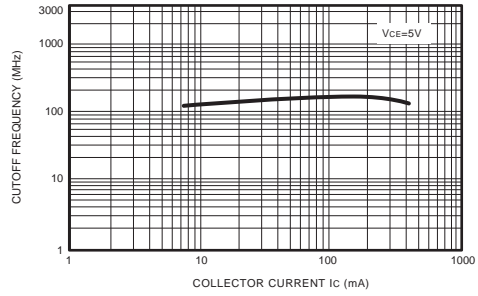


Figure 3. h_{FE} - I_c

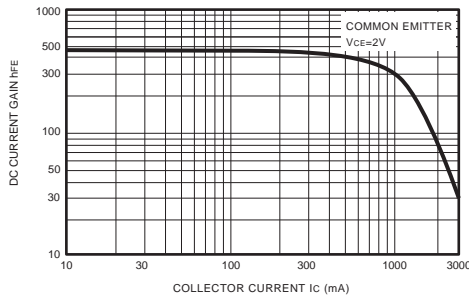


Figure 4. P_c - T_a

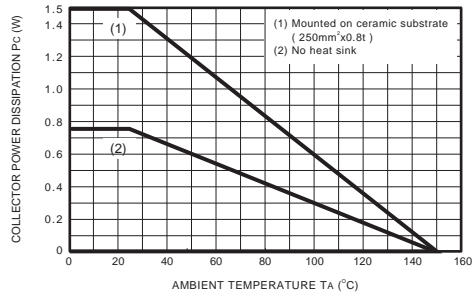


Figure 5. $V_{CE(sat)}$ - I_c

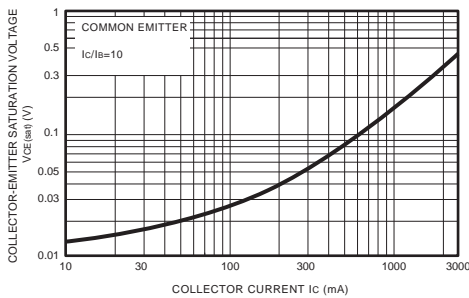
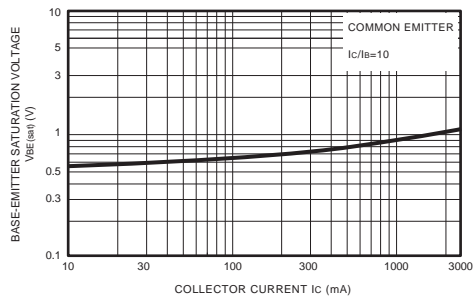


Figure 6. $V_{BE(sat)}$ - I_c



RATING CHARACTERISTIC CURVES (CH882GP)

Typical Electrical Characteristics

Figure 9. Safe Operation Area

