



CHENMKO ENTERPRISE CO.,LTD

CH847SPT

SURFACE MOUNT

NPN Multi-Chip General Purpose Amplifier

VOLTAGE 45 Volts CURRENT 0.2 Ampere

Lead free devices

APPLICATION

- * AF input stages and driver applicationon equipment.
- * Other general purpose applications.

FEATURE

- * Small surface mounting type. (SC-88/SOT-363)
- * High current gain.
- * Suitable for high packing density.
- * Low collector-emitter saturation.
- * High saturation current capability.
- * Two internal isolated NPN transistors in one package.

CONSTRUCTION

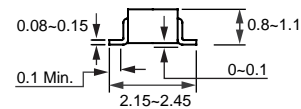
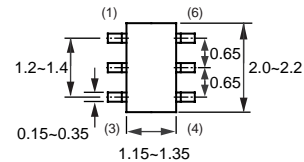
- * Two NPN transistors in one package.

MARKING

- * NF



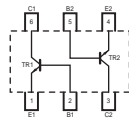
SC-88/SOT-363



Dimensions in millimeters

SC-88/SOT-363

CIRCUIT



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V _{CBO}	collector-base voltage	open emitter	—	50	V
V _{CEO}	collector-emitter voltage	open base	—	45	V
V _{CES}	collector-base voltage	open emitter	—	50	V
V _{EBO}	emitter-base voltage	open collector	—	6	V
I _C	collector current (DC)		—	200	mA
I _{CM}	peak collector current		—	400	mA
I _{BM}	peak base current		—	2	mA
P _{tot}	total power dissipation	T _{amb} ≤ 25 °C; note 1	—	300	mW
T _{stg}	storage temperature		-55	+150	°C
T _j	junction temperature		—	150	°C
T _{amb}	operating ambient temperature		-55	+150	°C

Note

1. Transistor mounted on an FR4 printed-circuit board.

RATING CHARACTERISTIC (CH847SPT)

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R_{thj-s}	thermal resistance from junction to ambient	note 1	415	K/W

Note

- Transistor mounted on an FR4 printed-circuit board.

CHARACTERISTICS

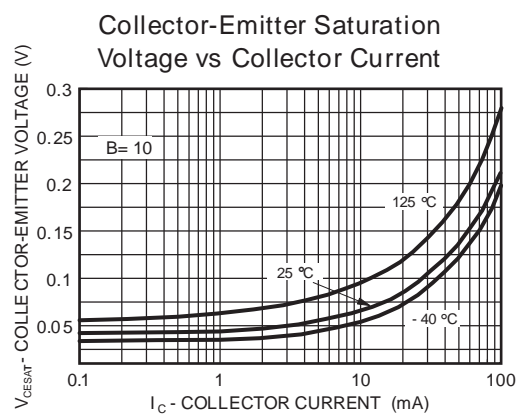
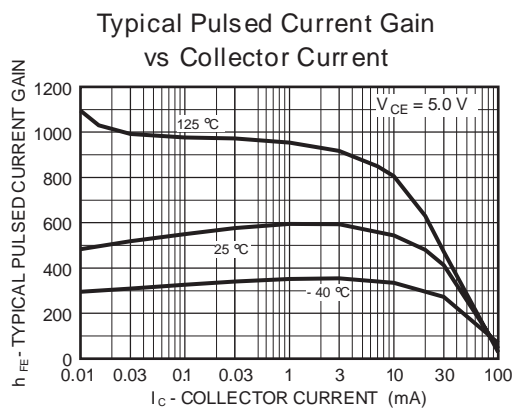
$T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector cut-off current	$I_E = 0; V_{CB} = 30\text{ V}$	–	15	nA
		$I_C = 0; V_{CB} = 30\text{ V}; T_A = 150\text{ }^{\circ}\text{C}$	–	30	uA
I_{EBO}	emitter cut-off current	$I_C = 0; V_{EB} = 4\text{ V}$	–	15	nA
h_{FE}	DC current gain	$I_C = 2.0\text{ mA}; V_{CE} = 5.0\text{ V};$ note 1	110	630	
V_{CEsat}	collector-emitter saturation voltage	$I_C = 10\text{ mA}; I_B = 0.5\text{ mA}$	–	250	mV
		$I_C = 10\text{ mA}; I_B = 0.5\text{ mA}$	–	650	mV
V_{BEsat}	base-emitter saturation voltage	$I_C = 2.0\text{ mA}; V_{CE} = 5.0\text{ V}$	0.58	0.70	V
		$I_C = 10\text{ mA}; V_{CE} = 5.0\text{ V}$	–	0.77	V
C_c	collector capacitance	$I_E = i_e = 0; V_{CB} = 10\text{ V}; f = 1\text{ MHz}$	–	2.0	pF
f_T	transition frequency	$I_C = 50\text{ mA}; V_{CE} = 5\text{ V};$ $f = 100\text{ MHz}$	200	–	MHz

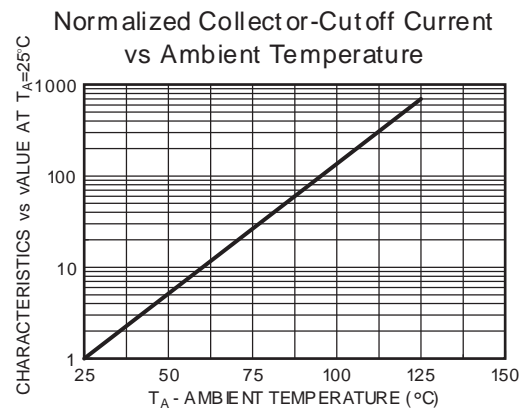
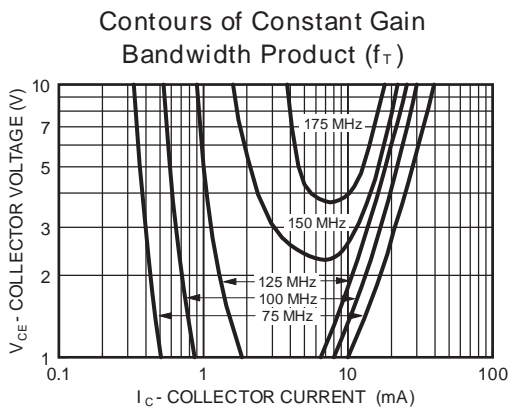
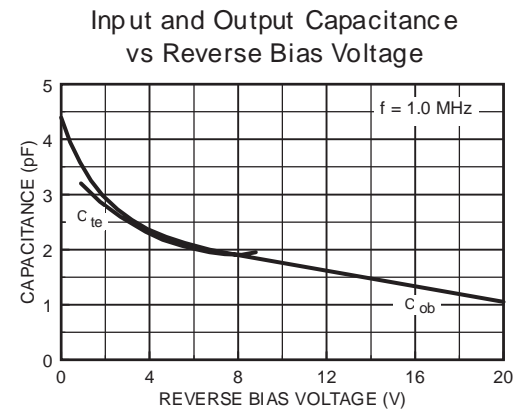
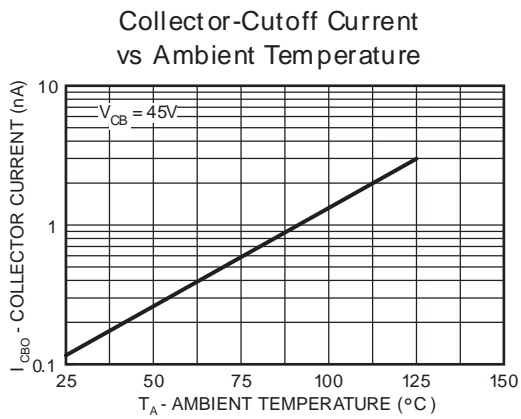
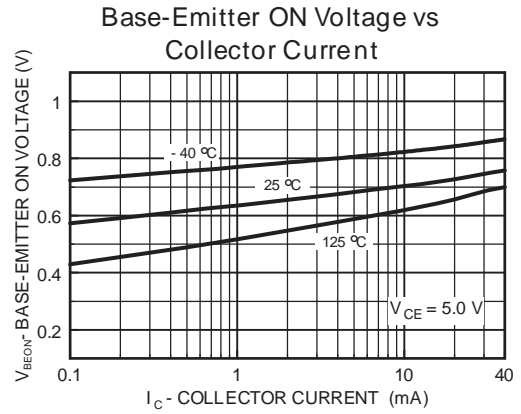
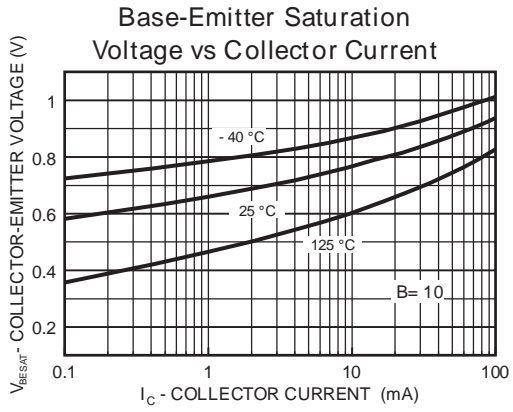
Note

- Pulse test: $t_p \leq 300\text{ }\mu\text{s}; \delta \leq 0.02.$

RATING CHARACTERISTIC CURVES (CH847SPT)

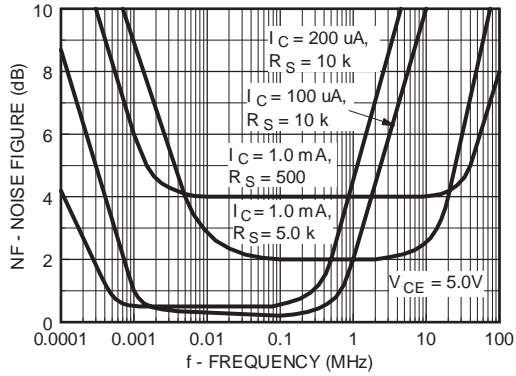


RATING CHARACTERISTIC CURVES (CH847SPT)

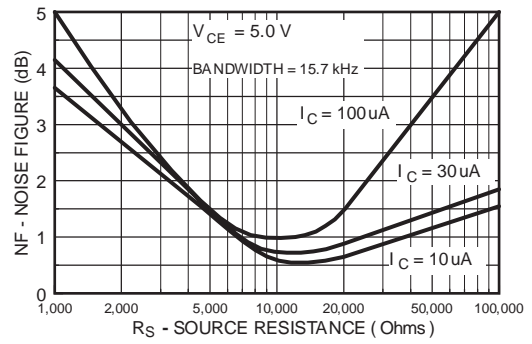


RATING CHARACTERISTIC CURVES (CH847SPT)

Noise Figure vs Frequency



Wideband Noise Frequency vs Source Resistance



Power Dissipation vs Ambient Temperature

