Ordering number : ENA1682

SANYO Semiconductors
DATA SHEET

ECH8505 — PNP Epitaxial Planar Silicon Transistor
Motor Drive Applications

Features

- Composite type, facilitating high-density mounting.
- Mounting height 0.9mm.
- Halogen free compliance.

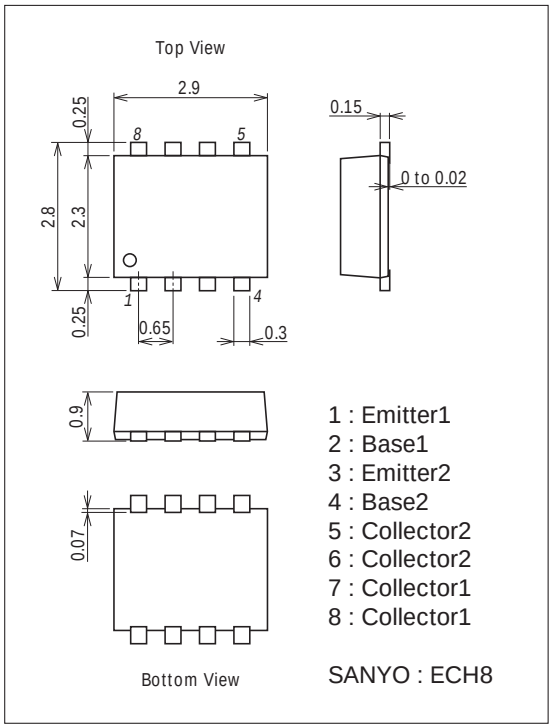
Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		-180	V
Collector-to-Emitter Voltage	V_{CEO}		-160	V
Emitter-to-Base Voltage	V_{EBO}		-7	V
Collector Current	I_C		-1.5	A
Collector Current (Pulse)	I_{CP}		-3	A
Base Current	I_B		-300	mA
Collector Dissipation	P_C	When mounted on ceramic substrate (900mm^2×0.8mm) 1unit	1.3	W
Total Dissipation	P_T	When mounted on ceramic substrate (900mm^2×0.8mm)	1.6	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Package Dimensions

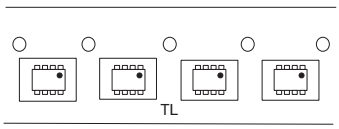
unit : mm (typ)
7011A-008



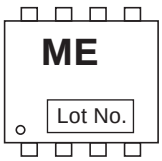
Product & Package Information

- Package : ECH8
- JEITA, JEDEC : -
- Minimum Packing Quantity : 3,000 pcs./reel

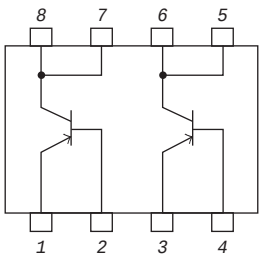
Taping Type : TL



Marking



Electrical Connection

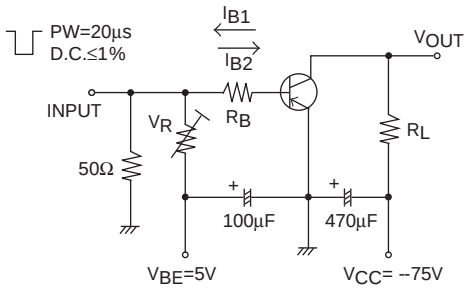


Electrical Characteristics at Ta=25°C

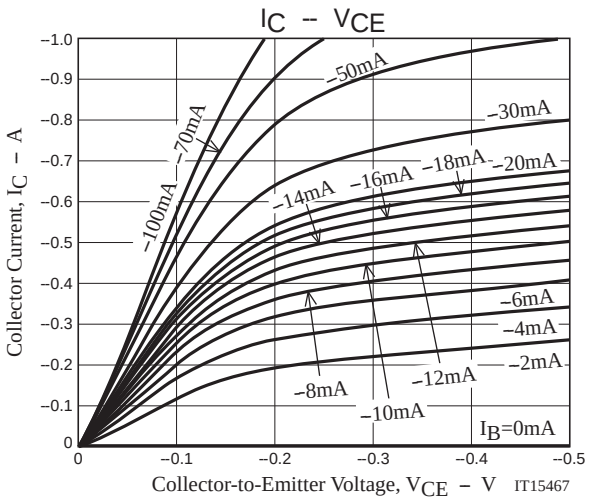
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}= -80V, I_E=0A			-1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}= -4V, I_C=0A			-1	μA
DC Current Gain	h_{FE}	V_{CE}= -5V, I_C= -100mA	200		560	
Gain-Bandwidth Product	f_T	V_{CE}= -10V, I_C= -100mA		85		MHz
Output Capacitance	Cob	V_{CB}= -10V, f=1MHz		21		pF
Collector-to-Emitter Saturation Voltage	V_{CE}(sat)	I_C= -500mA, I_B= -50mA		-90	-160	mV
Base-to-Emitter Saturation Voltage	V_{BE}(sat)	I_C= -500mA, I_B= -50mA		-0.9	-1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C= -10μA, I_E=0A	-180			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C= -1mA, R_{BE}=∞	-160			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E= -10μA, I_C=0A	-7			V
Turn-On Time	t_{on}	See specified Test Circuit.		25		ns
Storage Time	t_{stg}	See specified Test Circuit.		970		ns
Fall Time	t_f	See specified Test Circuit.		30		ns

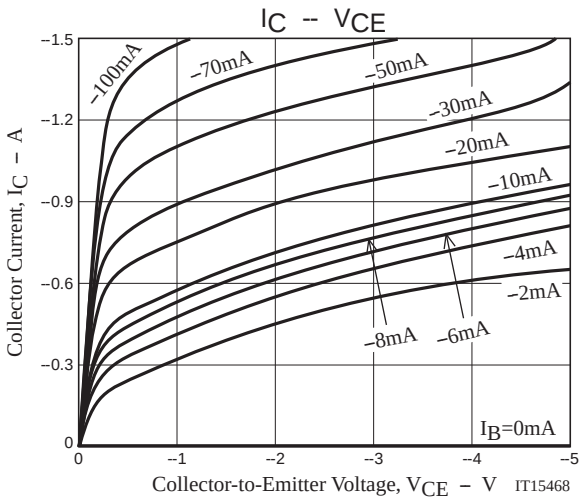
Note) The specifications shown above are for each individual transistor.

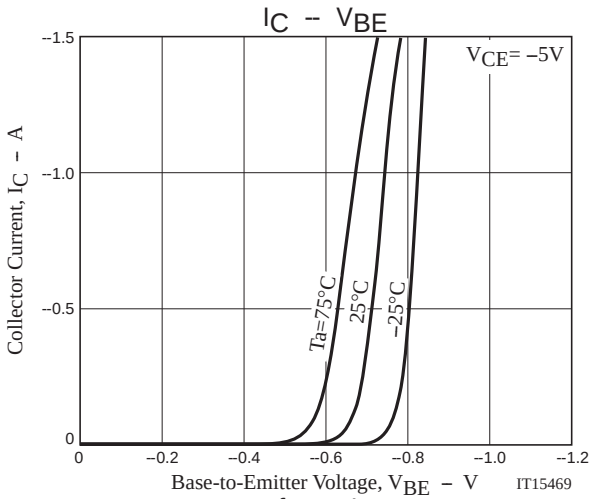
Switching Time Test Circuit

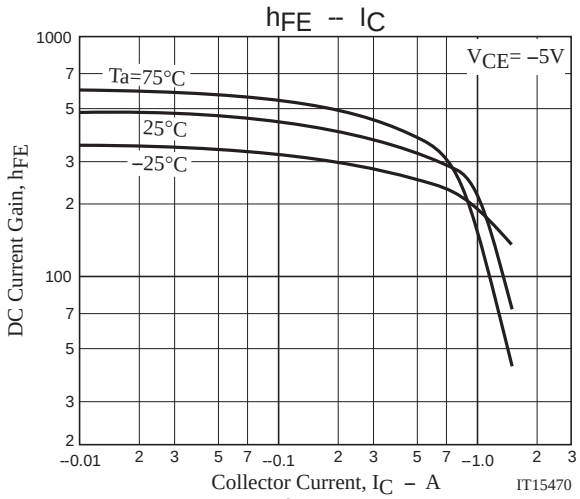


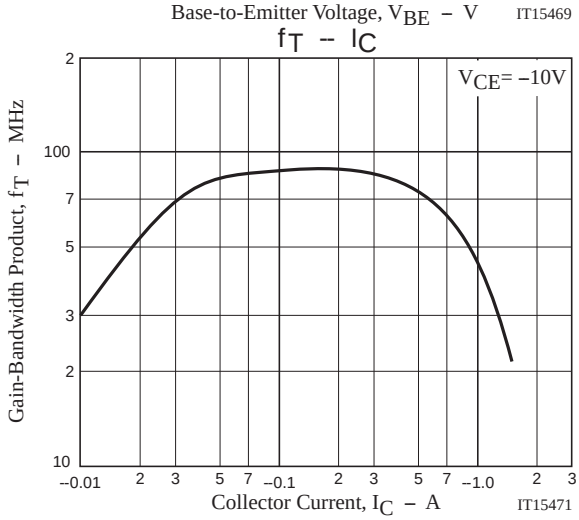
I_C= –10I_{B1}=10I_{B2}= –0.7A

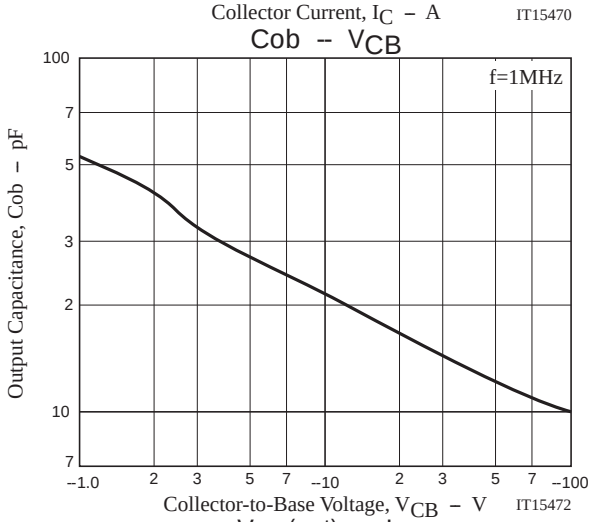


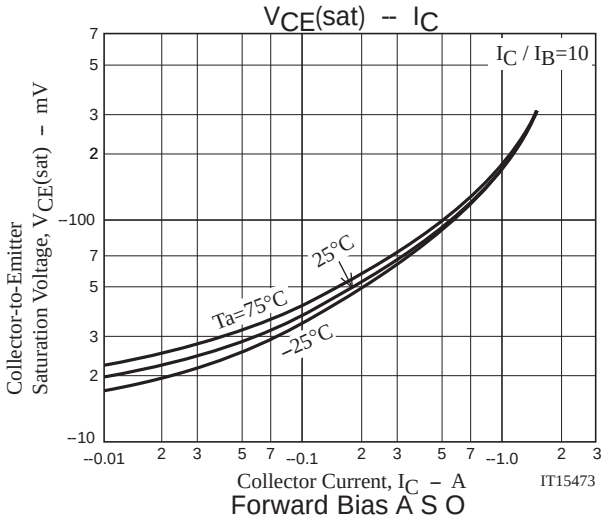


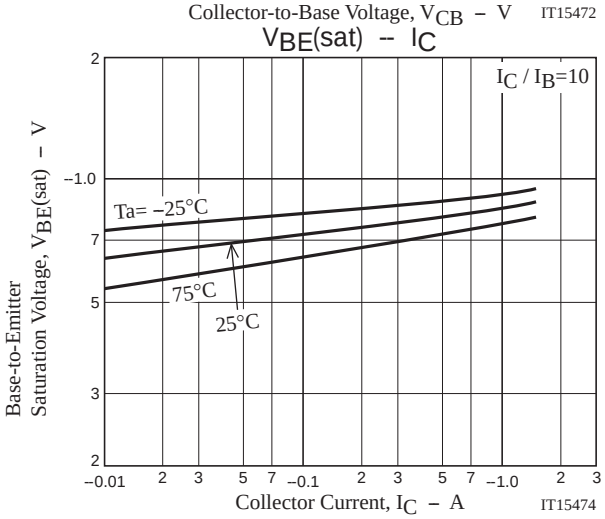

IC – VBE
VCE= –5V
Ta=75°C
25°C
–25°C
Collector Current, IC – A
Base-to-Emitter Voltage, VBE – V
IT15469

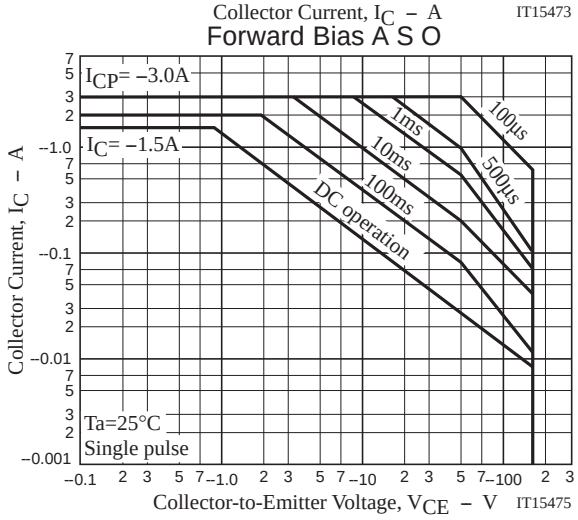

hFE – IC
VCE= –5V
Ta=75°C
25°C
–25°C
DC Current Gain, hFE
Collector Current, IC – A
IT15470

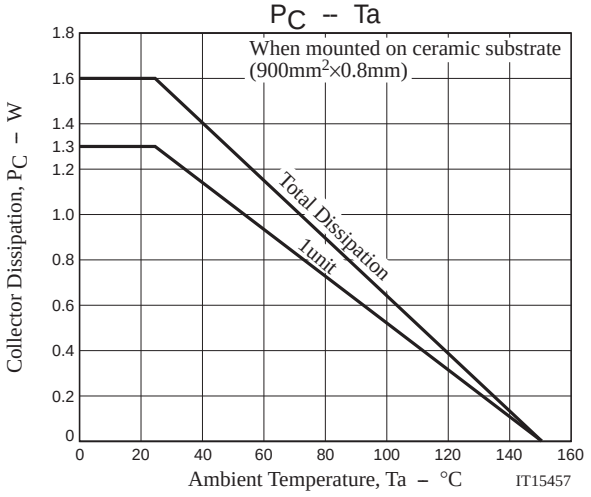

fT – IC
VCE= –10V
Gain-Bandwidth Product, fT – MHz
Collector Current, IC – A
IT15471


Cob – VCB
f=1MHz
Output Capacitance, Cob – pF
Collector-to-Base Voltage, VCB – V
IT15472


VCE(sat) – IC
IC / IB=10
Collector-to-Emitter Saturation Voltage, VCE(sat) – mV
25°C
Ta=75°C
–25°C
Collector Current, IC – A
IT15473


VBE(sat) – IC
IC / IB=10
Base-to-Emitter Saturation Voltage, VBE(sat) – V
Ta= –25°C
75°C
25°C
Collector Current, IC – A
IT15474


Forward Bias A S O
ICP= –3.0A
IC= –1.5A
100µs
1ms
10ms
100ms
500µs
DC operation
Ta=25°C
Single pulse
Collector Current, IC – A
Collector-to-Emitter Voltage, VCE – V
IT15475


PC – Ta
When mounted on ceramic substrate
(900mm2×0.8mm)
Total Dissipation
1unit
Collector Dissipation, PC – W
Ambient Temperature, Ta – °C
IT15457

This catalog provides information as of May, 2010. Specifications and information herein are subject to change without notice.