



ECH8504 — PNP Epitaxial Planar Silicon Transistor

Motor Drive Applications

Features

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

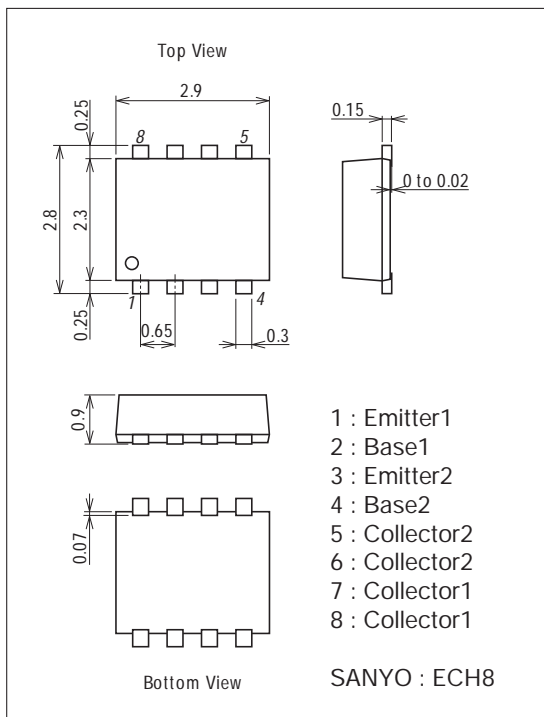
Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		-100	V
Collector-to-Emitter Voltage	V _{CE0}		-100	V
Emitter-to-Base Voltage	V _{EB0}		-7	V
Collector Current	I _C		-3	A
Collector Current (Pulse)	I _{CP}		-6	A
Base Current	I _B		-600	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	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Package Dimensions

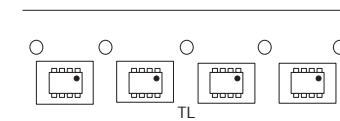
unit : mm (typ)
7011A-008



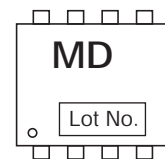
Product & Package Information

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

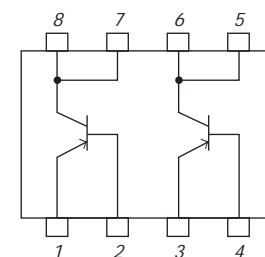
Taping Type : TL



Marking



Electrical Connection

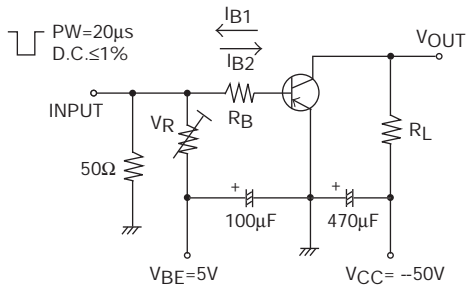


Electrical Characteristics at Ta=25°C

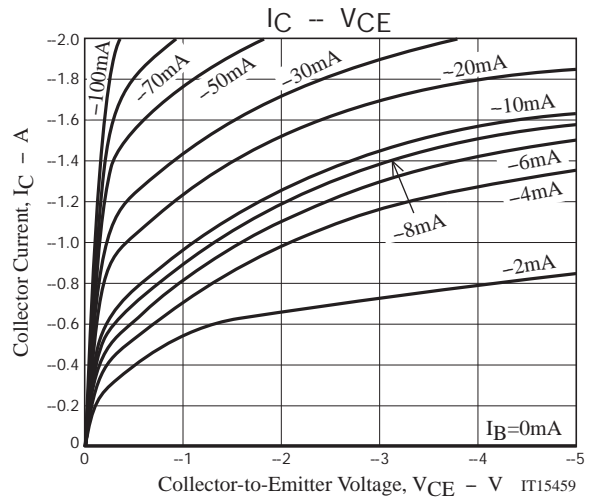
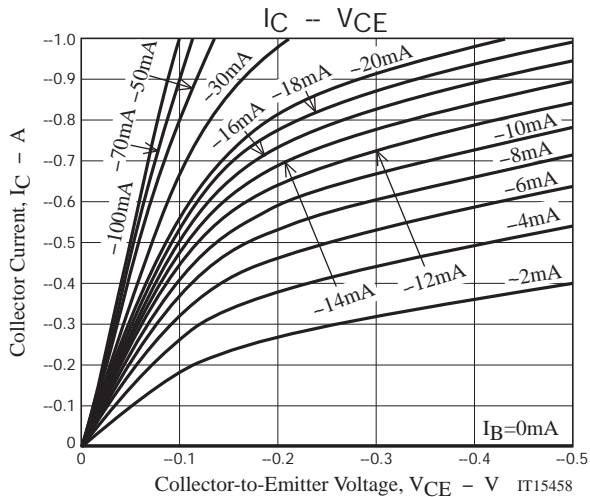
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V _{CB} = -80V, I _E =0A			-1	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} = -4V, I _C =0A			-1	μA
DC Current Gain	h _{FE}	V _{CE} = -5V, I _C = -100mA	200		560	
Gain-Bandwidth Product	f _T	V _{CE} = -10V, I _C = -500mA		250		MHz
Output Capacitance	C _{ob}	V _{CB} = -10V, f=1MHz		28		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C = -1A, I _B = -100mA		-75	-130	mV
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C = -1A, I _B = -100mA		-0.85	-1.2	V
Collector-to-Base Breakdown Voltage	V _{(BR)CBO}	I _C = -10μA, I _E =0A	-100			V
Collector-to-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C = -1mA, R _{BE} =∞	-100			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.		420		ns
Fall Time	t _f	See specified Test Circuit.		20		ns

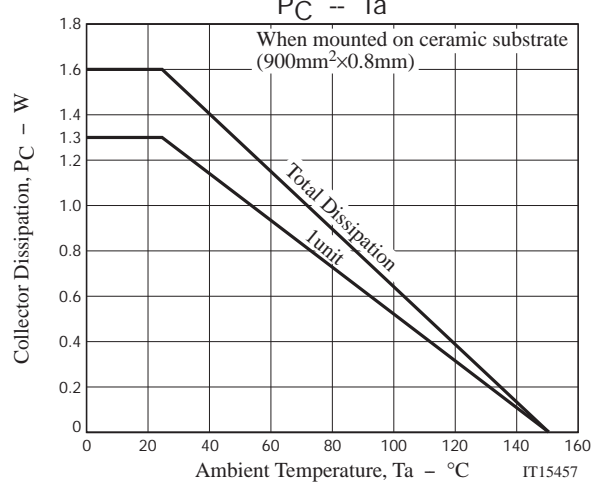
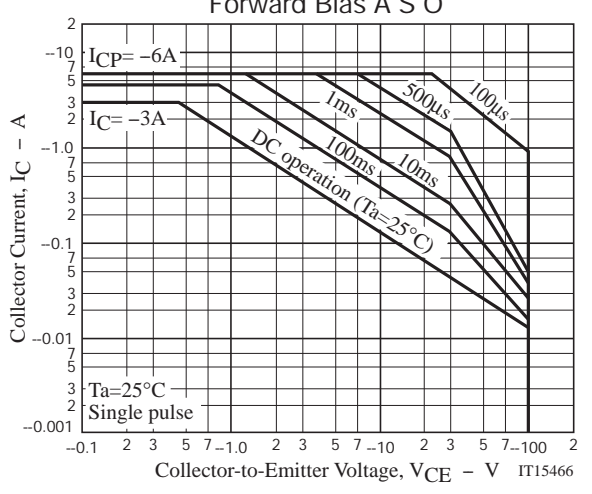
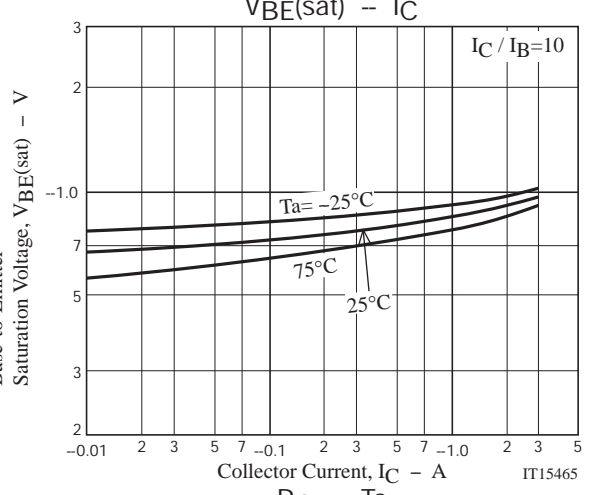
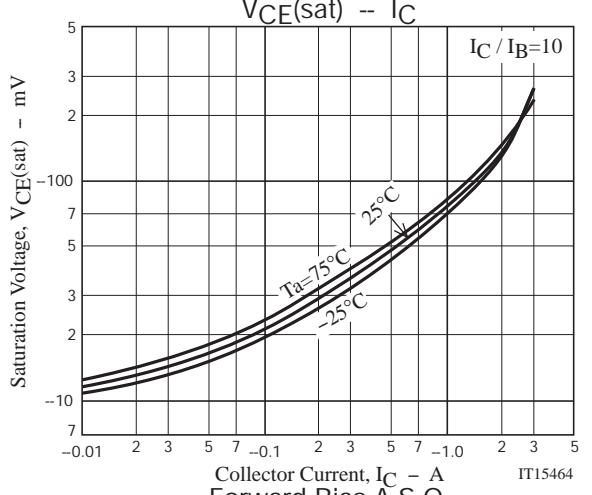
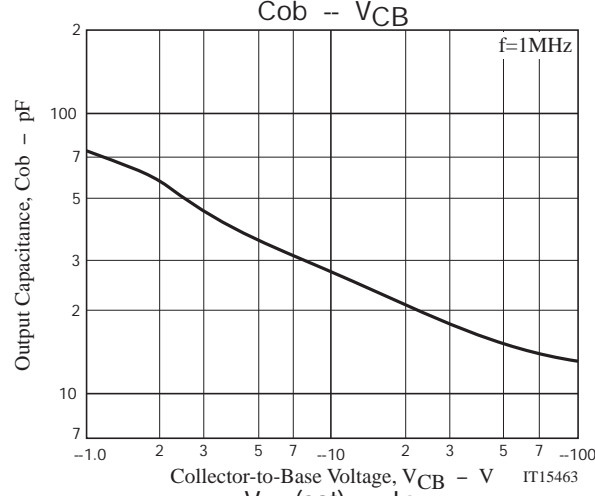
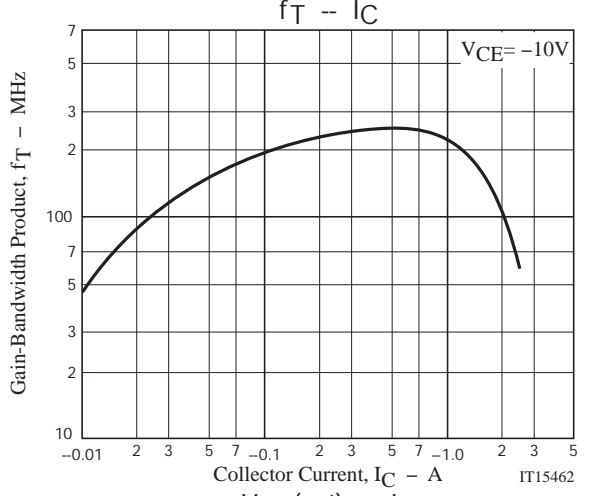
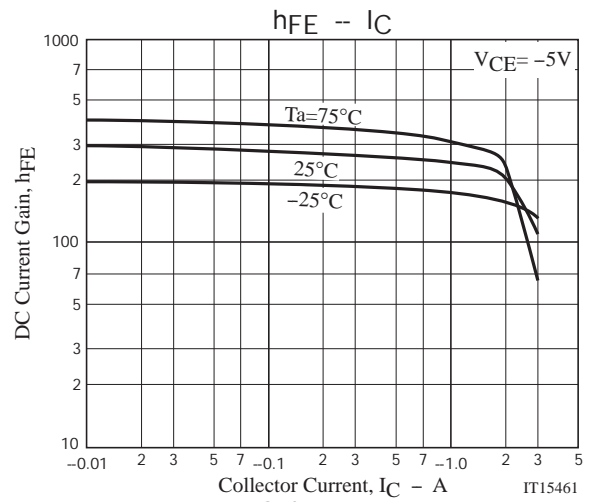
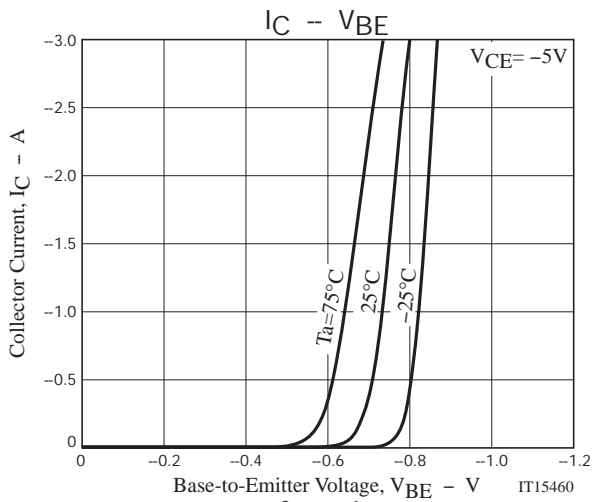
Note) The specifications shown above are for each individual transistor.

Switching Time Test Circuit



$$I_C = -10I_{B1} = 10I_{B2} = -1A$$





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