



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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2SA2057

Silicon PNP epitaxial planar type

Power supply for audio & visual equipments

such as TVs and VCRs

Industrial equipments such as DC-DC converters

■ Features

- High speed switching (t_{stg} : storage time/ t_f : fall time is short)
- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Superior forward current transfer ratio h_{FE} linearity
- TO-220D built-in: Excellent package with withstand voltage 5 kV guaranteed

■ Absolute Maximum Ratings $T_C = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	-60	V
Collector-emitter voltage (Base open)	V_{CEO}	-60	V
Emitter-base voltage (Collector open)	V_{EBO}	-6	V
Collector current	I_C	-3	A
Peak collector current *	I_{CP}	-6	A
Collector power dissipation	P_C	20	W
$T_a = 25^\circ\text{C}$		2.0	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

(Note) *: Non-repetitive peak collector current

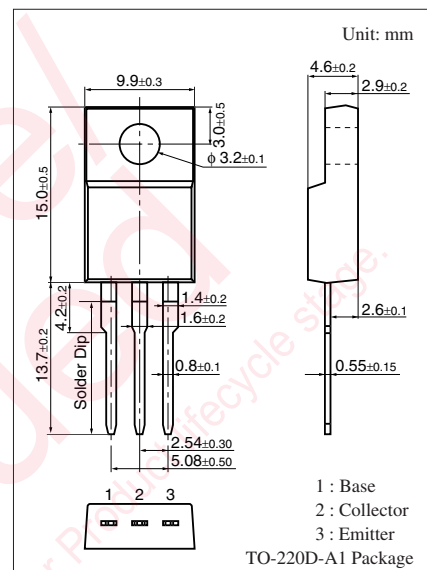
■ Electrical Characteristics $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = -10\text{ mA}$, $I_B = 0$	-60			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = -60\text{ V}$, $I_E = 0$			-100	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = -60\text{ V}$, $I_B = 0$			-100	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = -6\text{ V}$, $I_C = 0$			-1	mA
Forward current transfer ratio	h_{FE1} *	$V_{CE} = -4\text{ V}$, $I_C = -1\text{ A}$	120		320	—
	h_{FE2}	$V_{CE} = -4\text{ V}$, $I_C = -3\text{ A}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -3\text{ A}$, $I_B = -0.375\text{ A}$			-0.5	V
Transition frequency	f_T	$V_{CE} = -10\text{ V}$, $I_C = -0.1\text{ A}$, $f = 10\text{ MHz}$		90		MHz
Turn-on time	t_{on}	$I_C = -1\text{ A}$, Resistance loaded		0.15	0.30	μs
Storage time	t_{stg}	$I_{B1} = -0.1\text{ A}$, $I_{B2} = 0.1\text{ A}$		0.4	0.7	μs
Fall time	t_f	$V_{CC} = 50\text{ V}$		0.10	0.15	μs

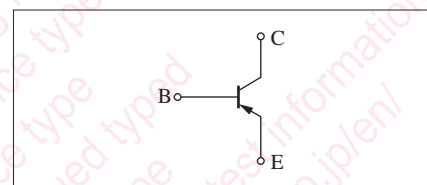
(Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

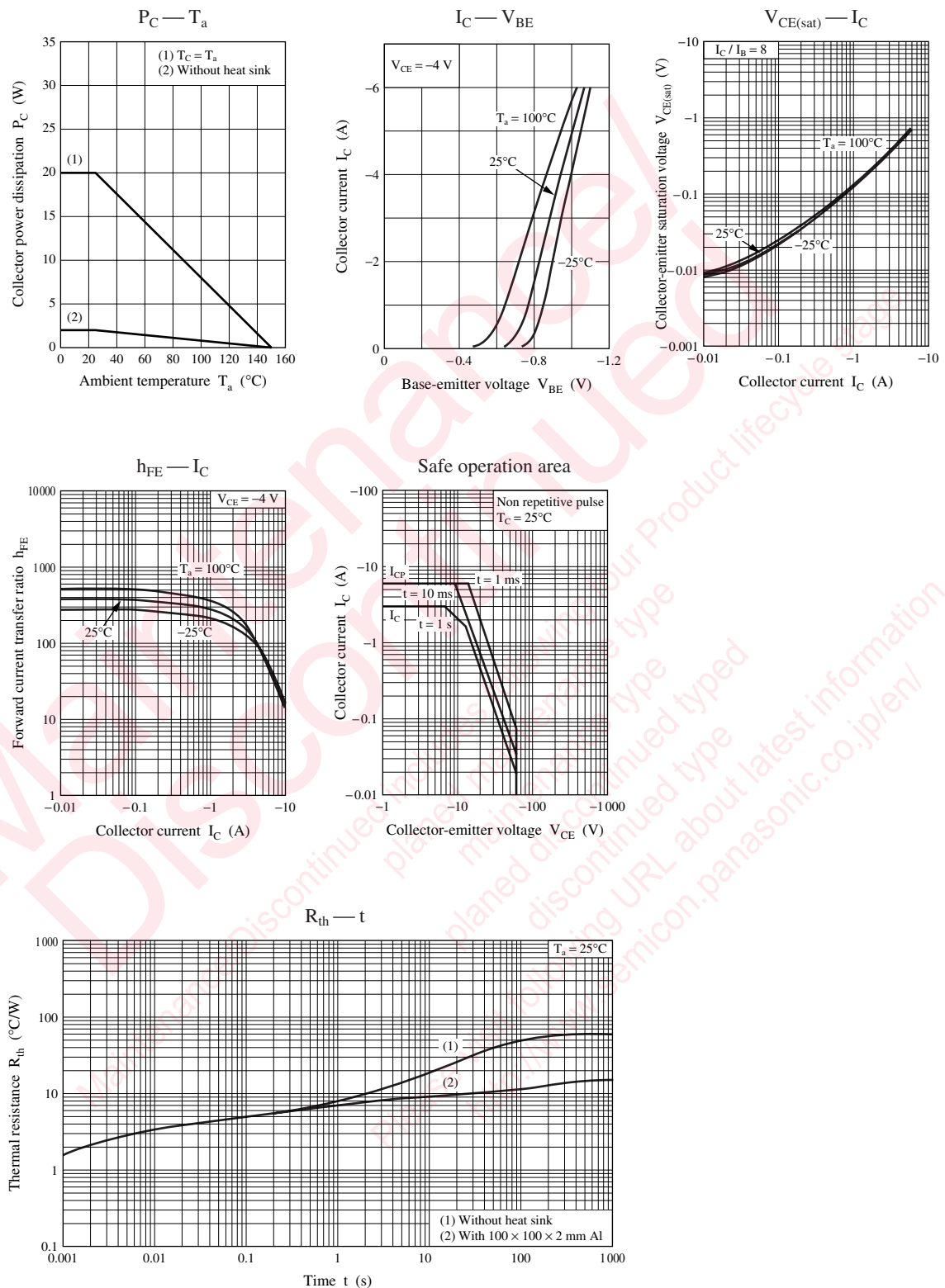
2. *: Rank classification

Rank	Q	P
h_{FE1}	120 to 250	160 to 320



Internal Connection





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