2SC519A
2SC520A
2SC521A

SILICON NPN TRIPLE DIFFUSED TYPE

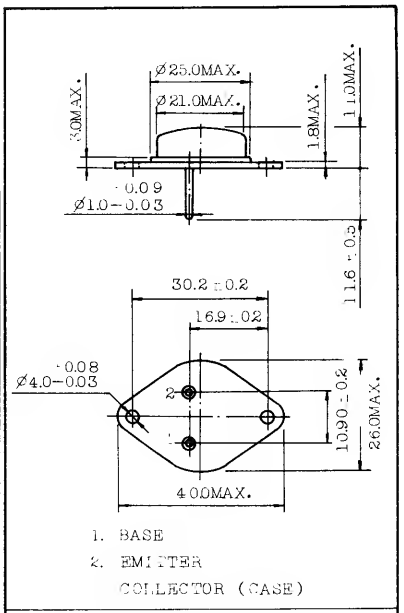
POWER AMPLIFIER, POWER SWITCHING APPLICATIONS.
DC-DC CONVERTER, REGULATOR APPLICATIONS.

INDUSTRIAL APPLICATIONS

FEATURES:

- High Voltage : V_{CBO}=130V(2SC519A), V_{CEO}=110V(2SC519A)
- High Collector Power Dissipation : P_C=50W (Tc=25°C)

unit in mm



JEDEC	TO-3
EIAJ	TC-3, TB-3
TOSHIBA	2-21A1A

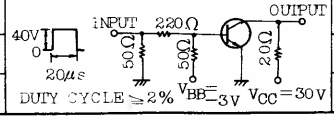
Mounting Kit No. AC73
Weight : 12g

MAXIMUM RATINGS (Ta=25°C)

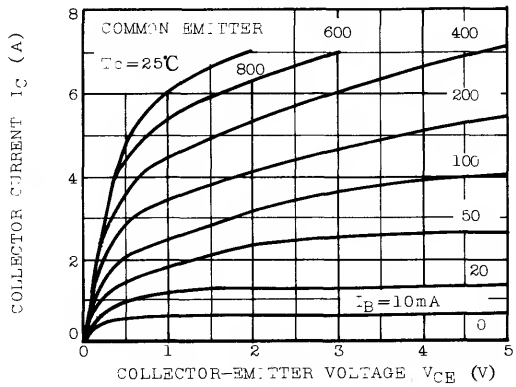
CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	2SC519A	V_{CBO}	130	V
	2SC520A		100	
	2SC521A		70	
Collector-Emitter Voltage	2SC519A	V_{CEO}	110	V
	2SC520A		80	
	2SC521A		50	
Emitter-Base Voltage		V_{EBO}	5	V
Collector Current		I_C	7	A
Base Current		I_B	2	A
Collector Power Dissipation	Tc=25°C	P_C	50	W
	(Note)		25	
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	−65∼150	°C

Note : Unit Mounted On a 300×300×2mmAℓ Heat Sink With Silicone Greased Mica Insulator

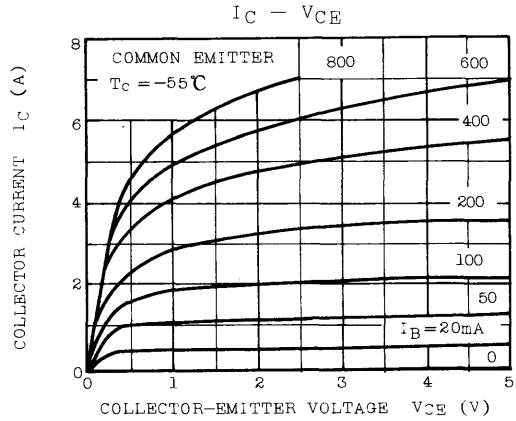
ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	2SC519A	I_{CBO}	V_{CB}=130V, I_E=0	−	−	100	μA
	2SC520A		V_{CB}=100V, I_E=0	−	−	100	
	2SC521A		V_{CB}=70V, I_E=0	−	−	100	
Emitter Cut-off Current		I_{EBO}	V_{EB}=5V, I_C=0	−	−	5	mA
Collector-Emitter Breakdown Voltage	2SC519A	$V_{(BR)CEO}$	I_C=50mA, I_B=0	110	−	−	V
	2SC520A		I_C=50mA, I_B=0	80	−	−	
	2SC521A		I_C=50mA, I_B=0	50	−	−	
DC Current Gain		$h_{FE(1)}$	V_{CE}=5V, I_C=1A	30	−	300	
		$h_{FE(2)}$	V_{CE}=5V, I_C=5A	15	−	−	
Saturation Voltage	Collector-Emitter	$V_{CE(sat)}$	I_C=5A, I_B=1A	−	0.6	2.0	V
	Base-Emitter	$V_{BE(sat)}$	I_C=5A, I_B=1A	−	1.3	2.5	
Transition Frequency		f_T	V_{CE}=10V, I_C=1A	−	10	−	MHz
Collector Output Capacitance		C_{ob}	V_{CB}=50V, I_E=0, f=1MHz	−	90	250	pF
Switching Time	Turn-on Time	t_{on}		−	0.4	−	μs
	Storage Time	t_{stg}		−	4.5	−	
	Fall Time	t_f		−	0.4	−	

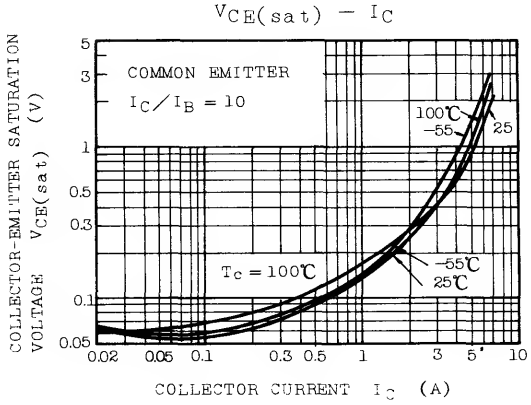
$I_C - V_{CE}$



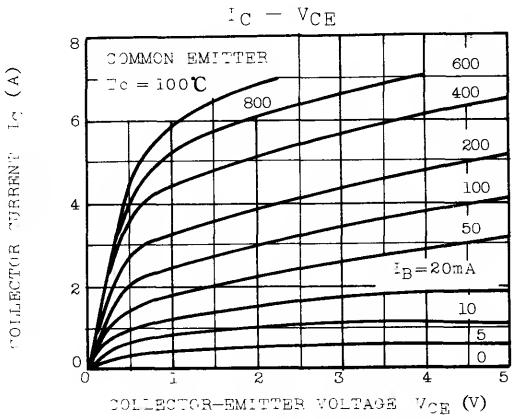
$I_C - V_{CE}$



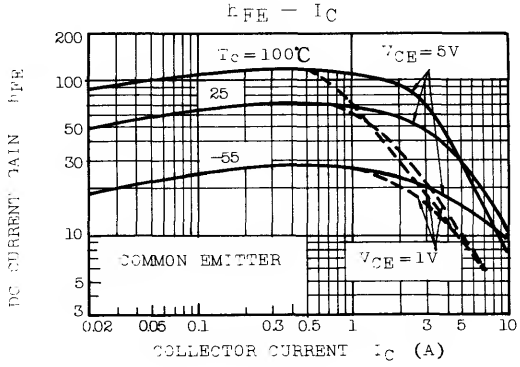
$V_{CE(sat)} - I_C$



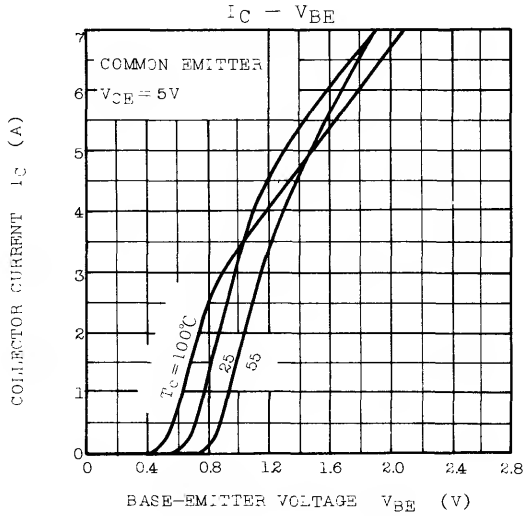
$I_C - V_{CE}$



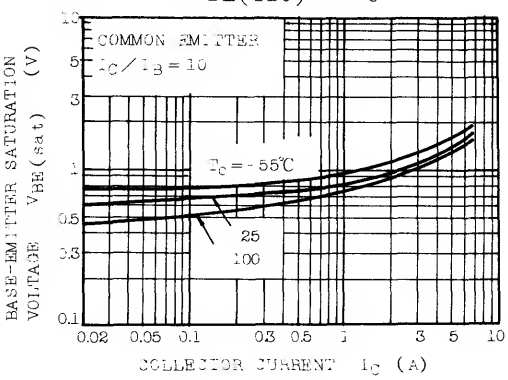
$h_{FE} - I_C$



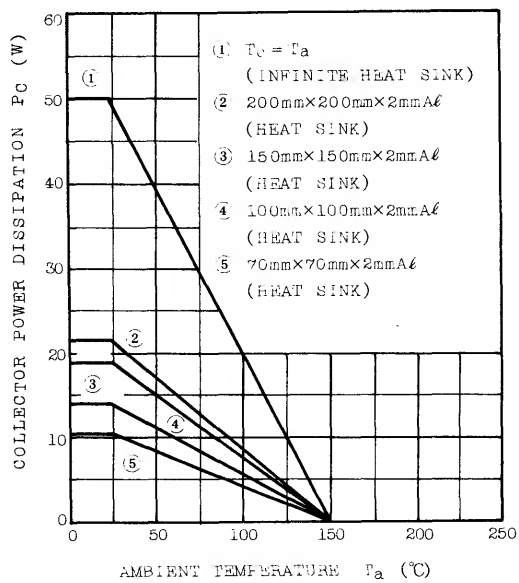
$I_C - V_{BE}$



$V_{BE(sat)}$ – I_C



P_C – T_a



SAFE OPERATING AREA