

# 2SC519A, 520A, 521A

SILICON NPN TRIPLE DIFFUSED  
MESA TYPE

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

INDUSTRIAL APPLICATIONS

unit in mm

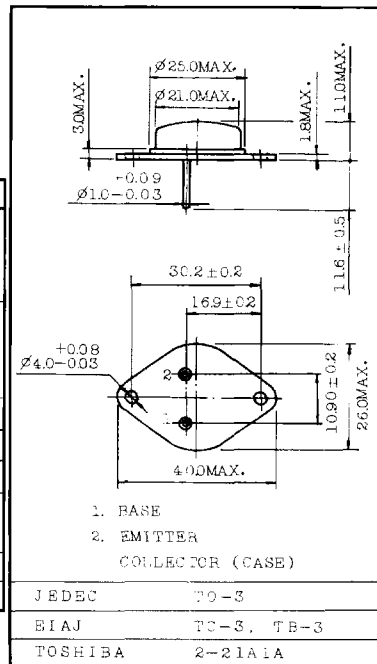
FEATURES:

- High Voltage :  $V_{CBO}=130V$  (2SC519A),  $V_{CEO}=110V$  (2SC519A)
- High Collector Power Dissipation :  $P_C=50W$  ( $T_c=25^\circ C$ )

MAXIMUM RATINGS ( $T_a=25^\circ C$ )

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	$T_c=25^\circ C$	$P_C$	50	W
	(Note)		25	
Junction Temperature		$T_j$	150	$^\circ C$
Storage Temperature Range		$T_{stg}$	-65~150	$^\circ C$

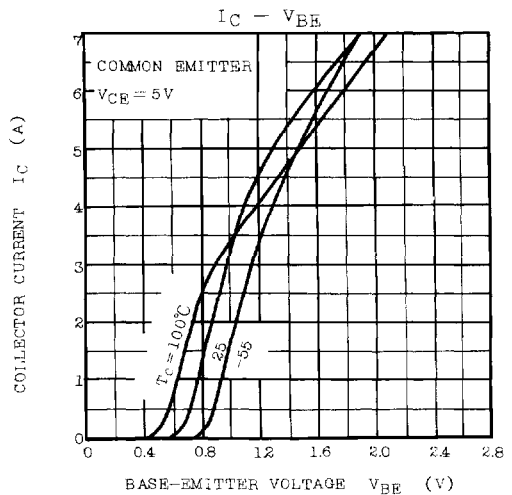
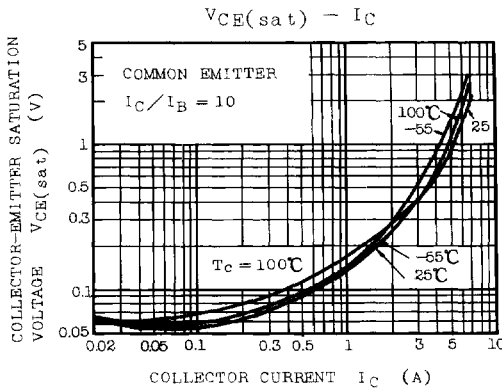
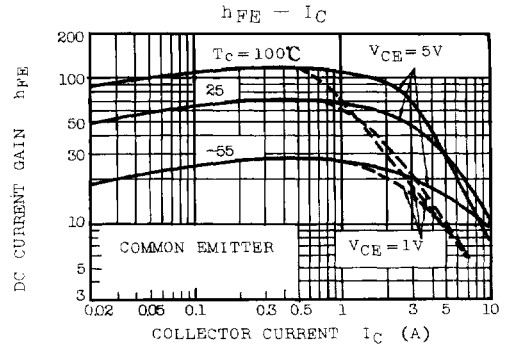
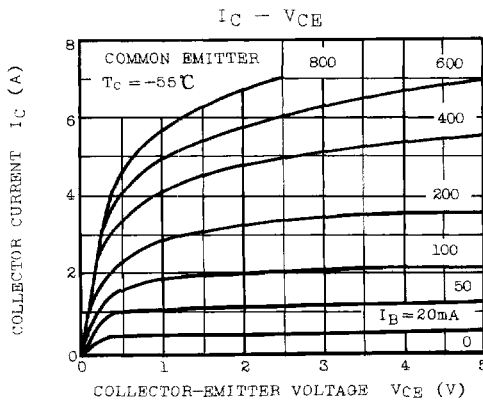
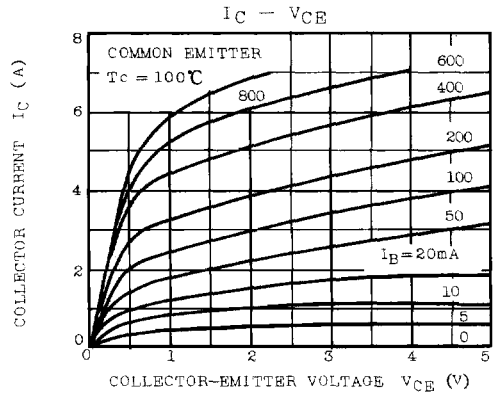
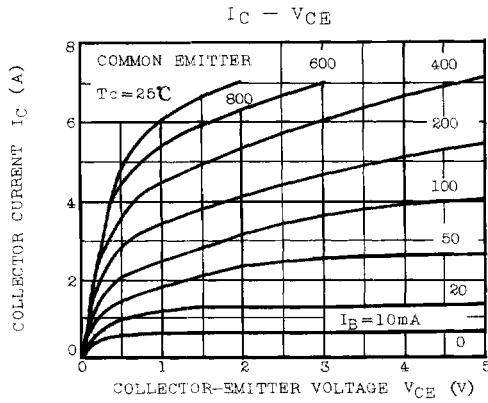
Note : Unit Mounted On a  $300 \times 300 \times 2mm^2$  Heat Sink With  
Silicone Greased Mica Insulator



Mounting Kit No. AC73  
Weight : 12g

ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ C$ )

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	2SC519A	$I_{CBO}$	$V_{CB}=130V, I_E=0$	-	-	100	$\mu A$
	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		$h_{FE}(1)$ $h_{FE}(2)$	$V_{CE}=5V, I_C=1A$ $V_{CE}=5V, I_C=5A$	30 15	-	300	
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	-	$\mu s$
	Storage Time	$t_{stg}$		-	4.5	-	
	Fall Time	$t_f$		-	0.4	-	



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