

# Chroma amplifier transistor (300V, 0.1A)

## 2SC4061K / 2SC3415S / 2SC4015

●Features

- 1) High breakdown voltage. ( $BV_{CEO}=300V$ )
- 2) Low collector output capacitance.  
(Typ. 3pF at  $V_{CB}=30V$ )
- 3) Ideal for chroma circuit.

●Absolute maximum ratings ( $T_a=25^{\circ}C$ )

Parameter	Symbol	Limits	Unit
Collector-base voltage	$V_{CBO}$	300	V
Collector-emitter voltage	$V_{CEO}$	300	V
Emitter-base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	100	mA
Collector power dissipation	2SC4061K	0.2	W
	2SC3415S	0.3	
	2SC4015	1 *	
Junction temperature	$T_j$	150	$^{\circ}C$
Storage temperature	$T_{stg}$	-55 to +150	$^{\circ}C$

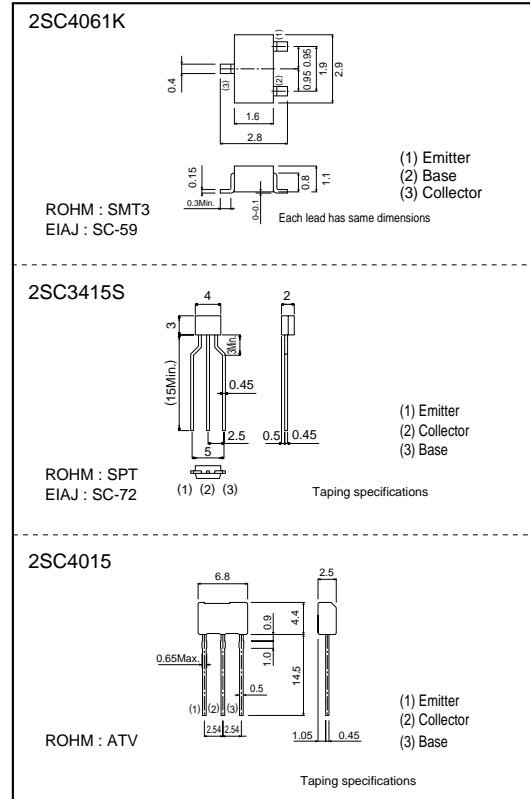
\* Printed circuit board 1.7mm thick, collector plating 1cm<sup>2</sup> or larger.

●Packaging specifications and hFE

Type	2SC4061K	2SC3415S	2SC4015
Package	SMT3	SPT	ATV
hFE	NP	NP	NP
Marking	AN*	-	-
Code	T146	TP	TV2
Basic ordering unit (pieces)	3000	5000	2500

\* Denotes hFE

●External dimensions (Unit : mm)



●Electrical characteristics ( $T_a=25^{\circ}C$ )

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	$BV_{CBO}$	300	-	-	V	$I_C=50\mu A$
Collector-emitter breakdown voltage	$BV_{CEO}$	300	-	-	V	$I_C=100\mu A$
Emitter-base breakdown voltage	$BV_{EBO}$	5	-	-	V	$I_E=50\mu A$
Collector cutoff current	$I_{CBO}$	-	-	0.5	$\mu A$	$V_{CB}=200V$
Emitter cutoff current	$I_{EBO}$	-	-	0.5	$\mu A$	$V_{EB}=4V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	2	V	$I_C/I_E=50mA/5mA$
DC current transfer ratio	hFE	56	-	180	-	$V_{CE}/I_C=10V/10mA$
Gain bandwidth product	f <sub>r</sub>	50	100	-	MHz	$V_{CE}=30V, I_E=-10mA, f=30MHz$
Collector output capacitance	C <sub>ob</sub>	-	3	-	pF	$V_{CB}=30V, I_E=0A, f=1MHz$

Transistors

●Electrical characteristics curves

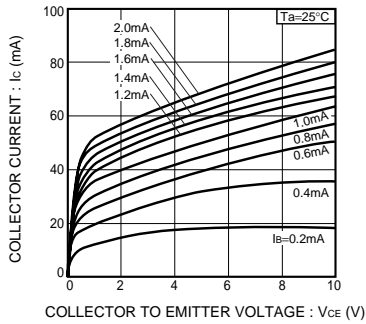


Fig.1 Ground emitter output characteristics ( I )

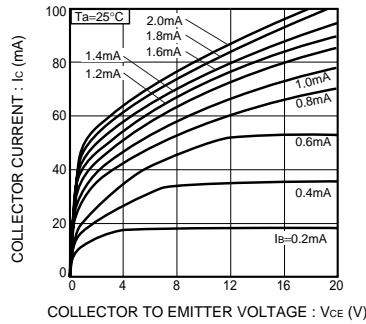


Fig.2 Ground emitter output characteristics ( II )

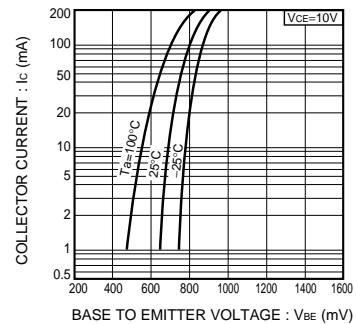


Fig.3 Ground emitter propagation characteristics

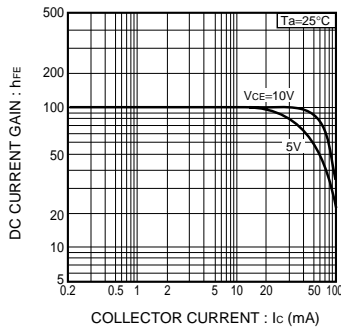


Fig.4 DC current gain vs. collector current ( I )

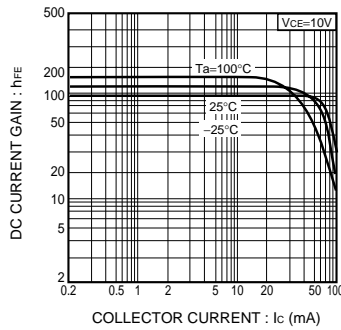


Fig.5 DC current gain vs. collector current ( II )

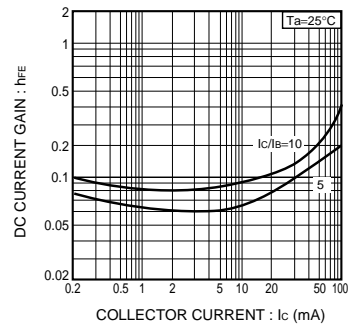


Fig.6 Collector-emitter saturation voltage vs. collector current

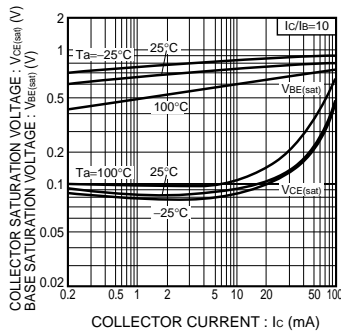


Fig.7 Collector-emitter saturation voltage vs. collector current

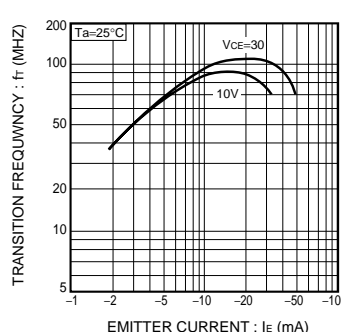


Fig.8 Gain bandwidth product vs. emitter current

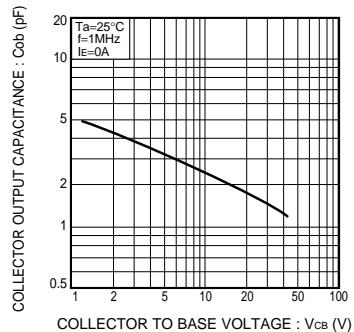


Fig.9 Collector output capacitance vs. collector-base voltage

Transistors

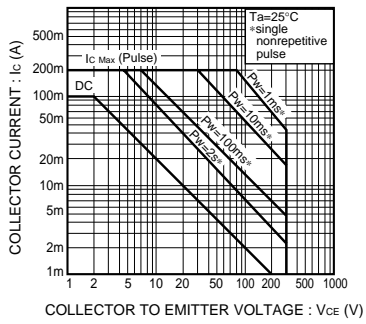


Fig.10 Safe operating area

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