

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	$^{\circ}C$

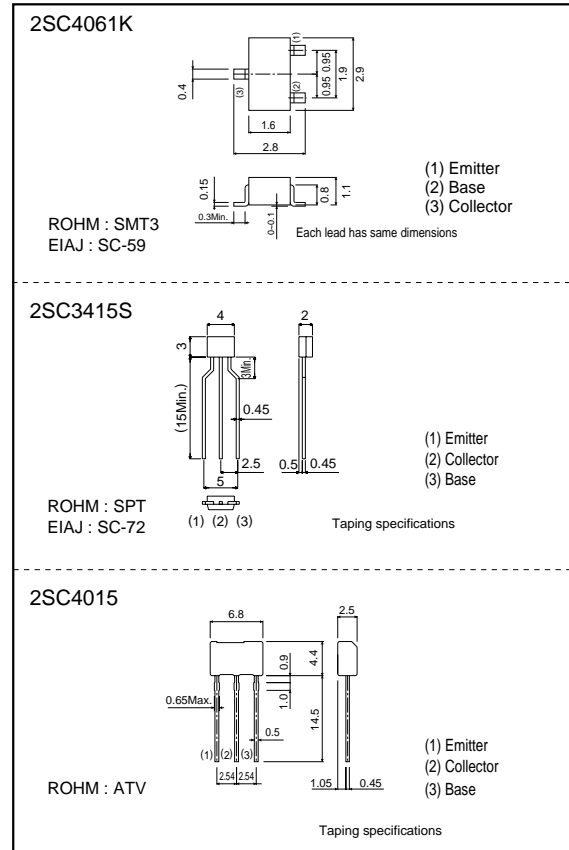
* Printed circuit board 1.7mm thick, collector plating 1cm² or larger.

●Packaging specifications and h_{FE}

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

* Denotes h_{FE}

●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	μA	$V_{CB}=200V$
Emitter cutoff current	I_{EBO}	-	-	0.5	μA	$V_{EB}=4V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	2	V	$I_C/I_B=50mA/5mA$
DC current transfer ratio	h_{FE}	56	-	180	-	$V_{CE}/I_C=10V/10mA$
Gain bandwidth product	f_r	50	100	-	MHz	$V_{CE}=30V, I_E=-10mA, f=30MHz$
Collector output capacitance	C_{ob}	-	3	-	pF	$V_{CB}=30V, I_E=0A, f=1MHz$

Transistors

●Electrical characteristics curves

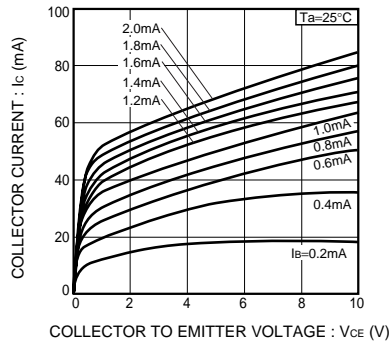


Fig.1 Ground emitter output characteristics (I)

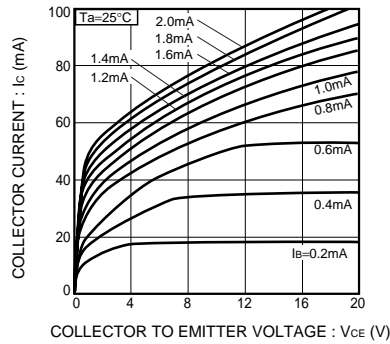


Fig.2 Ground emitter output characteristics (II)

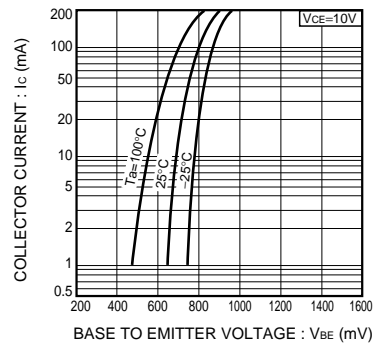


Fig.3 Ground emitter propagation characteristics

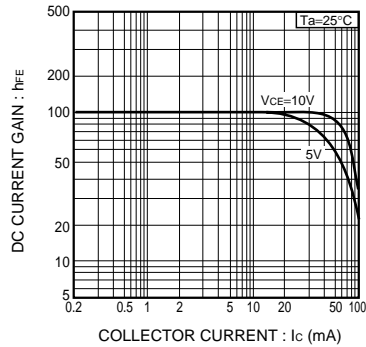


Fig.4 DC current gain vs. collector current (I)

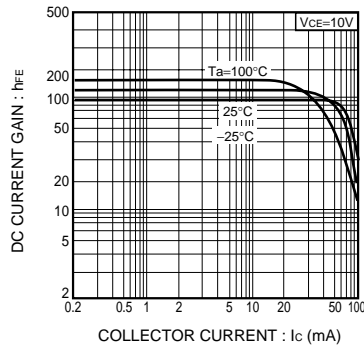


Fig.5 DC current gain vs. collector current (II)

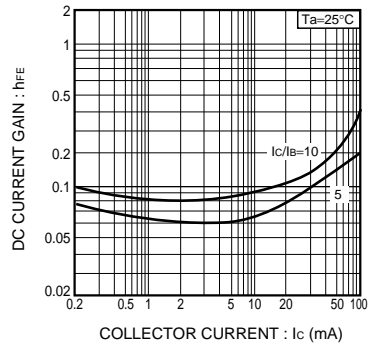


Fig.6 Collector-emitter saturation voltage vs. collector current

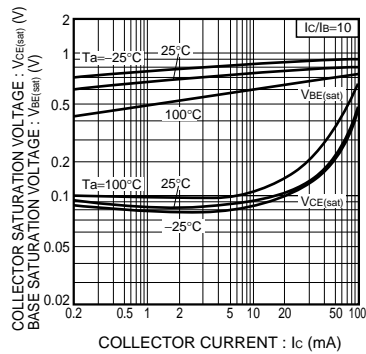


Fig.7 Collector-emitter saturation voltage Base-emitter saturation voltage vs. collector current

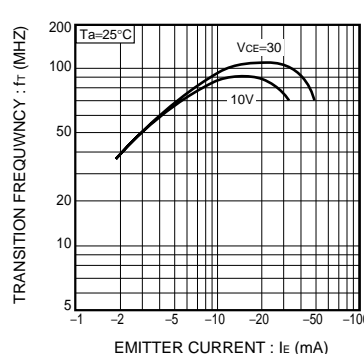


Fig.8 Gain bandwidth product vs. emitter current

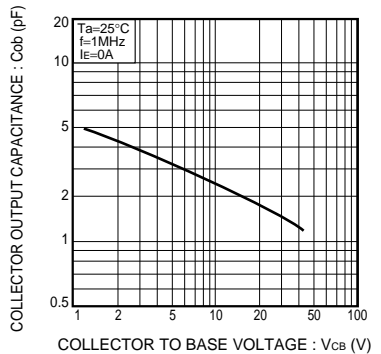


Fig.9 Collector output capacitance vs. collector-base voltage

Transistors

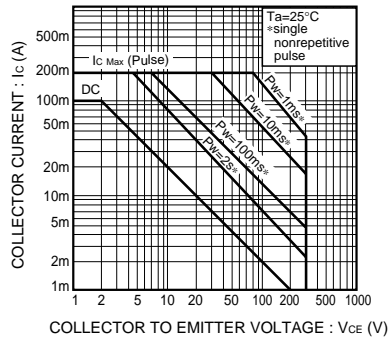


Fig.10 Safe operating area

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