



# 2SC4412

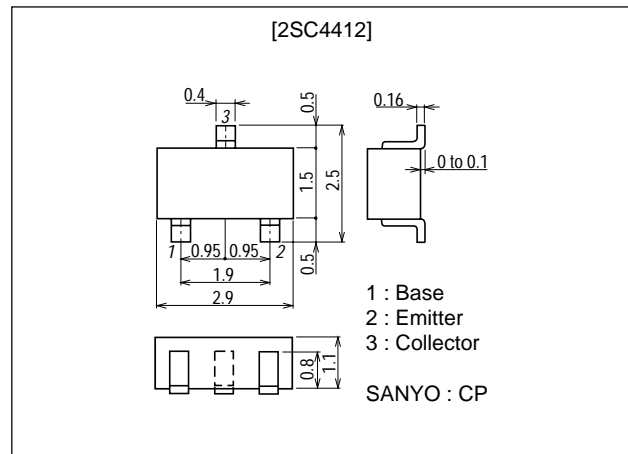
## TV Camera Deflection High-Voltage Driver Applications

### Features

- High breakdown voltage( $V_{CEO} \geq 300V$ ).
- Small reverse transfer capacitance and excellent high frequency characteristic( $C_{re} : 1.0pF$  typ).
- Excellent DC current gain ratio( $h_{FE}$  ratio : 0.95 typ).
- Adoption of FBET process.

### Package Dimensions

unit : mm  
2018B



### Specifications

Absolute Maximum Ratings at  $T_a = 25^\circ C$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CBO}$		300	V
Collector-to-Emitter Voltage	$V_{CEO}$		300	V
Emitter-to-Base Voltage	$V_{EBO}$		5	V
Collector Current	$I_C$		50	mA
Collector Current (Pulse)	$I_{CP}$		100	mA
Collector Dissipation	$P_C$		250	mW
Junction Temperature	$T_j$		150	$^\circ C$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ C$

### Electrical Characteristics at $T_a = 25^\circ C$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 200V, I_E = 0$			0.1	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{CE} = 4V, I_C = 0$			0.1	$\mu A$
DC Current Gain	$h_{FE1}$	$V_{CE} = 6V, I_C = 0.1mA$	100*		320*	
	$h_{FE2}$	$V_{CE} = 6V, I_C = 1mA$	100			

Marking : QT

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\* : The 2SC4412 is classified by 0.1mA  $h_{FE}$  as follows.

Rank	4	5
$h_{FE}$	100 to 200	160 to 320

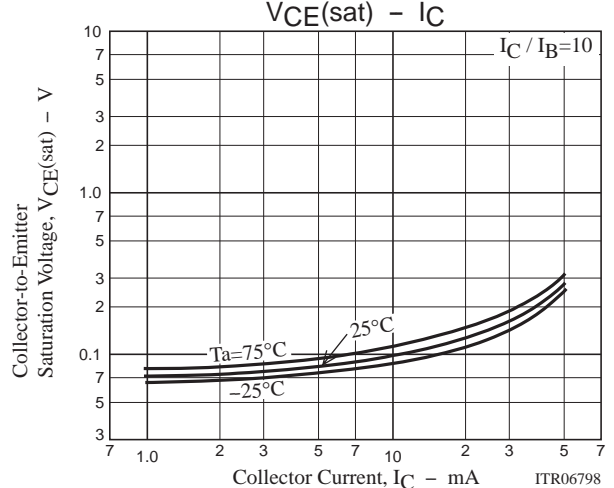
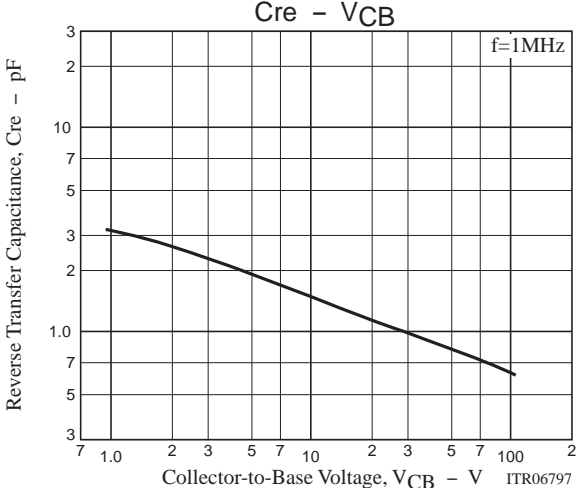
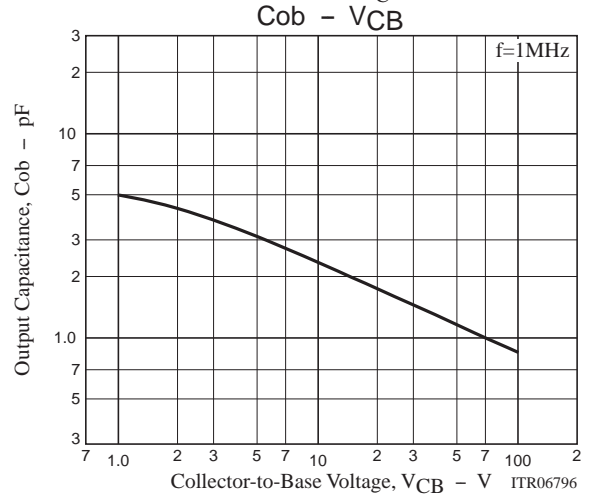
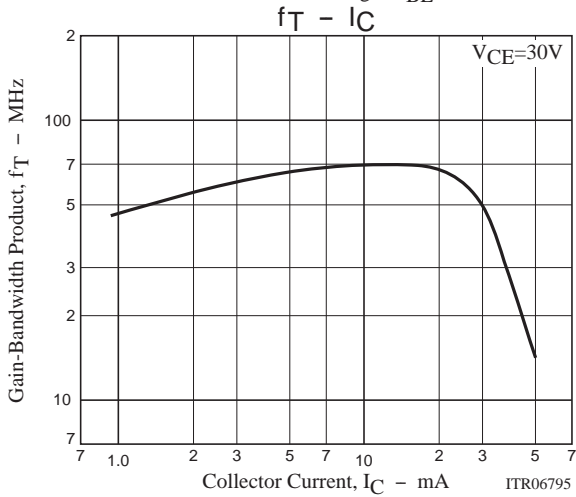
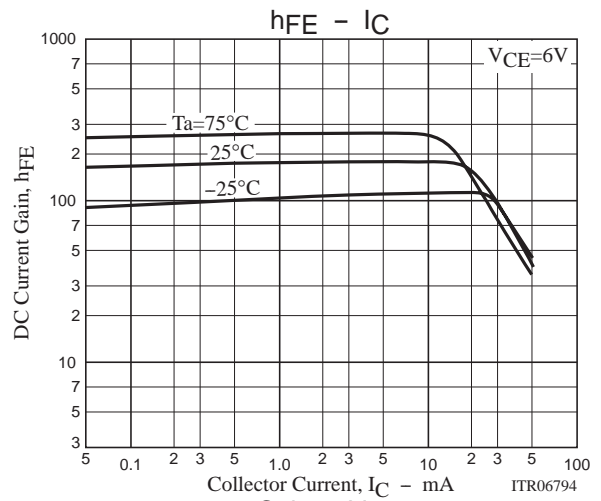
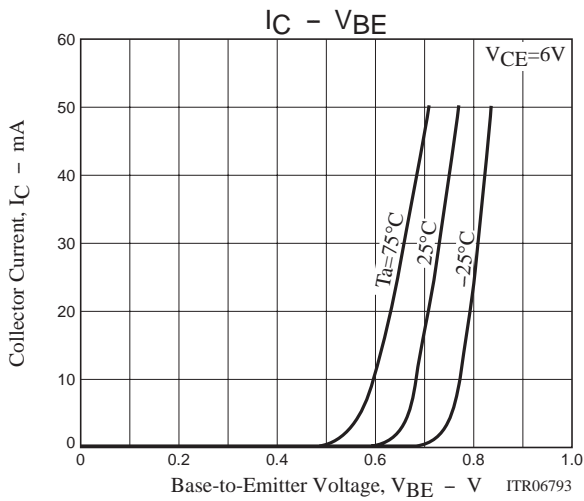
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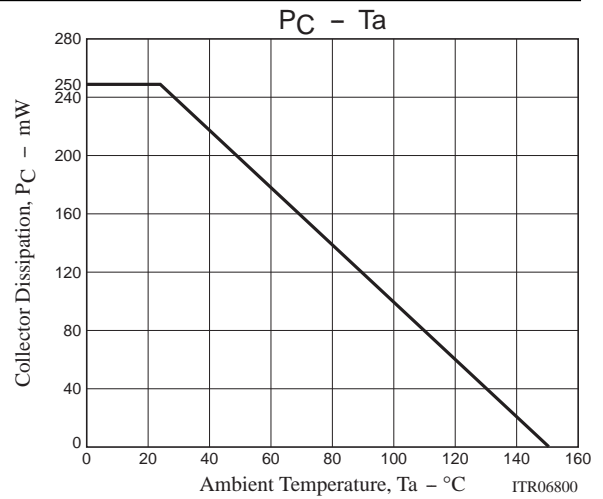
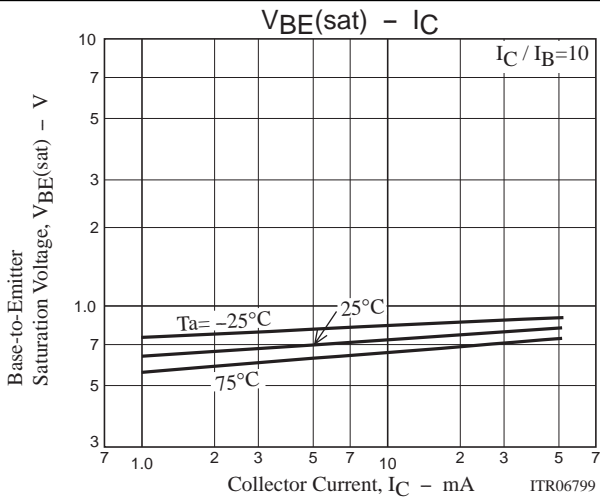
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gain-Bandwidth Product	$f_T$	$V_{CE}=30V, I_C=10mA$		70		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=30V, f=1MHz$		1.5		pF
Reverse Transfer Capacitance	$C_{re}$	$V_{CB}=30V, f=1MHz$		1.0		pF
DC Current Gain Ratio	$h_{FE}$ ratio	$h_{FE1} / h_{FE2}$		0.95		
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10mA, I_B=1mA$			1.0	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=10mA, I_B=1mA$			1.0	V
Collector-to-Base Breakdown Voltage	$V(BR)CBO$	$I_C=10\mu A, I_E=0$	300			V
Collector-to-Emitter Breakdown Voltage	$V(BR)CEO$	$I_C=1mA, R_{BE}=\infty$	300			V
Emitter-to-Base Breakdown Voltage	$V(BR)EBO$	$I_C=10\mu A, I_C=0$	5			V



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