

**SANYO**

No.3019

**2SC4412**

NPN Triple Diffused Planar Silicon Transistor

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

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

			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	$^\circ C$

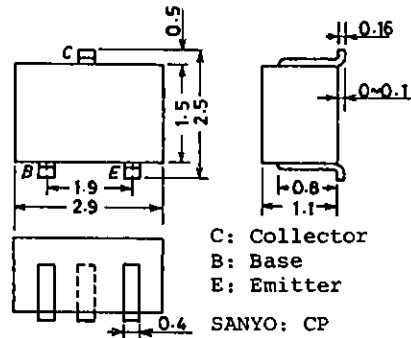
**Electrical Characteristics at  $T_a = 25^\circ C$** 

			min	typ	max	unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 200V, I_E = 0$			0.1	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 4V, I_C = 0$			0.1	$\mu A$
DC Current Gain	$h_{FE(1)}$	$V_{CE} = 6V, I_C = 0.1mA$	100*		320*	
	$h_{FE(2)}$	$V_{CE} = 6V, I_C = 1mA$	100			
Gain-Bandwidth Product	$f_T$	$V_{CE} = 30V, I_C = 10mA$		70		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = 10mA, I_B = 1mA$			1.0	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = 10mA, I_B = 1mA$			1.0	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\mu A, I_E = 0$	300			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1mA, R_{BE} = \infty$	300			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu A, I_C = \infty$	5			V
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	$h_{FE(1)}/h_{FE(2)}$		0.95		

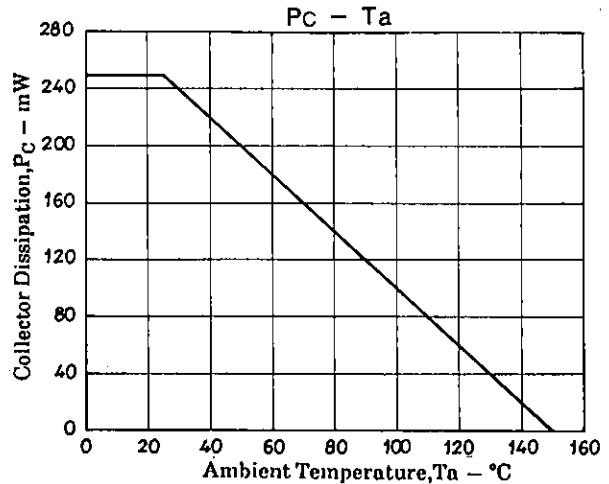
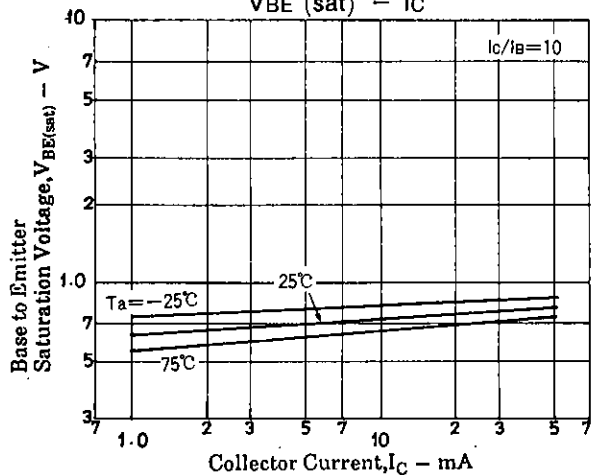
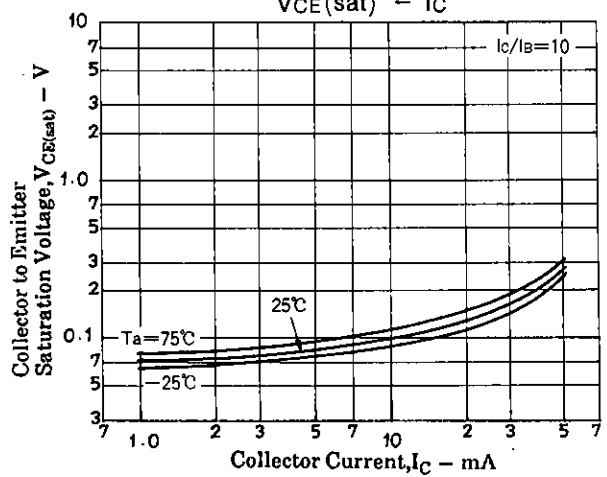
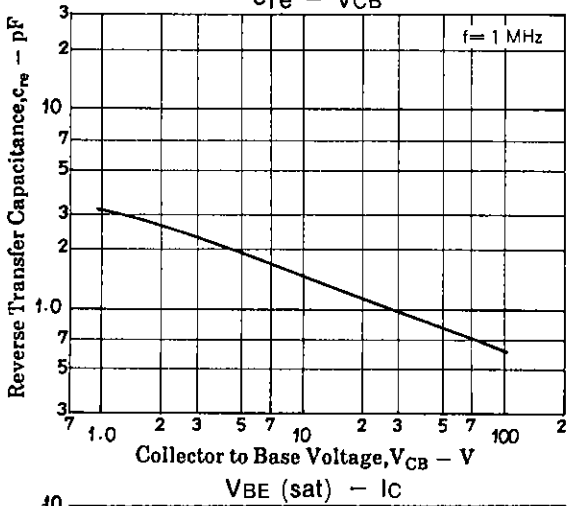
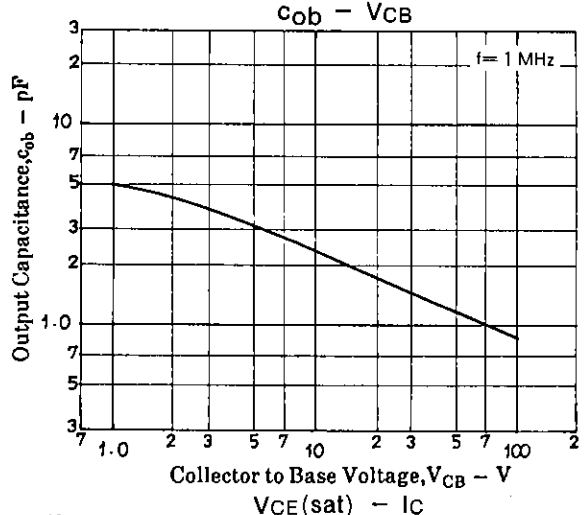
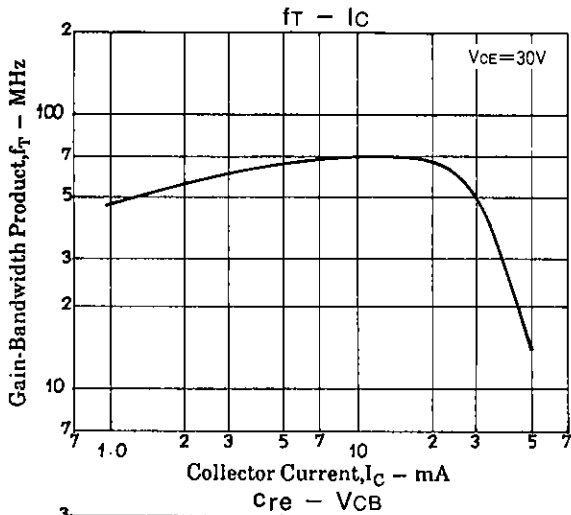
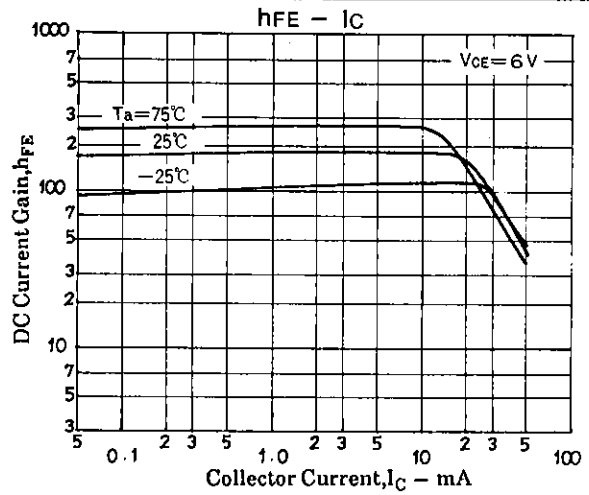
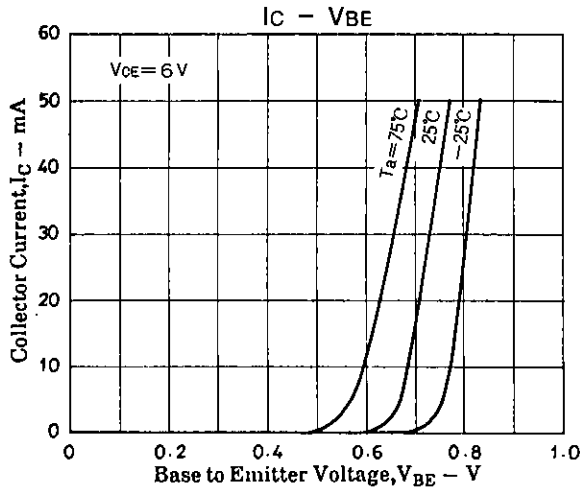
\* : The 2SC4412 is classified by 0.1mA  $h_{FE}$  as follows :

100	4	200	160	5	320
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(Note) Marking : QT  
 $h_{FE}$  rank : 4,5

**Package Dimensions 2018A**  
(unit : mm)

2SC4412



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