

# 2SC4516

## Silicon NPN Epitaxial Planar Type

For UHF band low-noise amplification

### ■ Features

- Low noise figure NF
- Large power gain PG
- High transition frequency  $f_T$
- A MINI type package that allows downsizing of equipment and automatic insertion by taping and magazine packaging

### ■ Absolute Maximum Ratings ( $T_a=25^\circ\text{C}$ )

Item	Symbol	Value	Unit
Collector-Base Voltage	$V_{CBO}$	15	V
Collector-Emitter Voltage	$V_{CEO}$	10	V
Emitter-Base Voltage	$V_{EBO}$	2	V
Collector Current	$I_C$	80	mA
Collector Power Dissipation	$P_C$	200	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55~+150	$^\circ\text{C}$

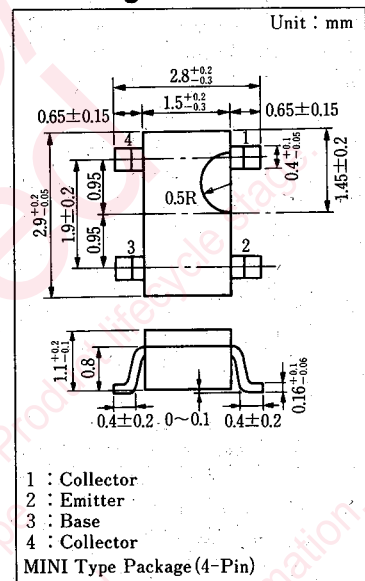
### ■ Electrical Characteristics ( $T_a=25^\circ\text{C}$ )

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=10\text{V}, I_E=0$			1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=2\text{V}, I_C=0$			1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE}=8\text{V}, I_C=20\text{mA}$	50	100	200	
Transition Frequency	$f_T$	$V_{CE}=8\text{V}, I_C=20\text{mA}, f=800\text{MHz}$		8		GHz
Collector Capacitance	$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		0.7	1.2	pF
Forward Transfer Gain	$ S_{21e} ^2$	$V_{CE}=8\text{V}, I_C=20\text{mA}, f=800\text{MHz}$	11	14		dB
Power Gain	GUM	$V_{CE}=8\text{V}, I_C=20\text{mA}, f=800\text{MHz}$		15		dB
Noise Figure	NF	$V_{CE}=8\text{V}, I_C=7\text{mA}, f=800\text{MHz}$		1.3	2.0	dB

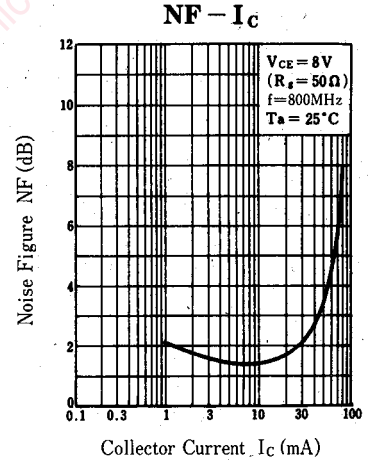
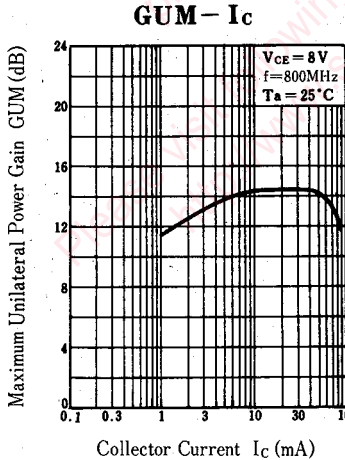
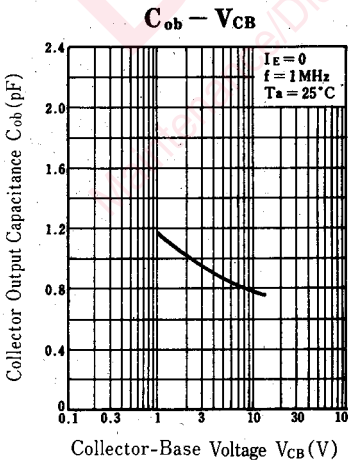
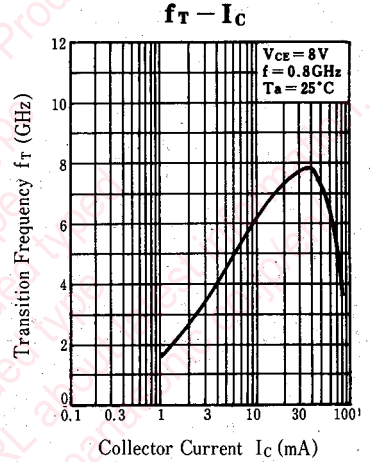
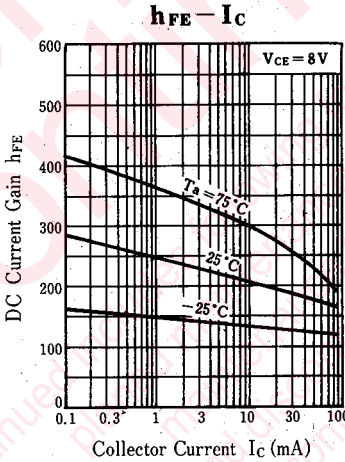
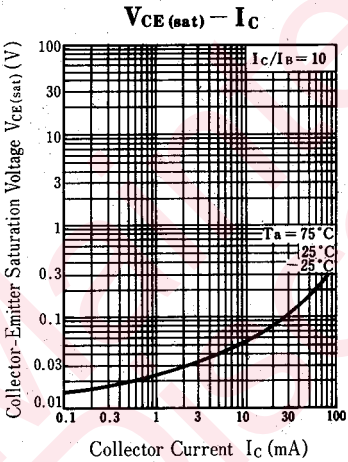
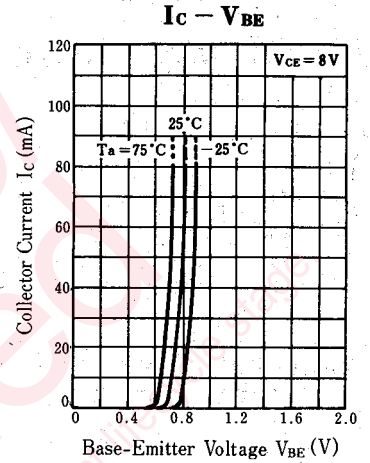
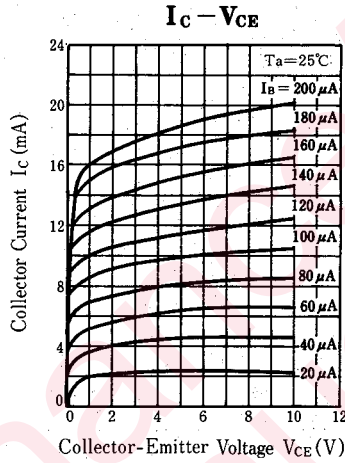
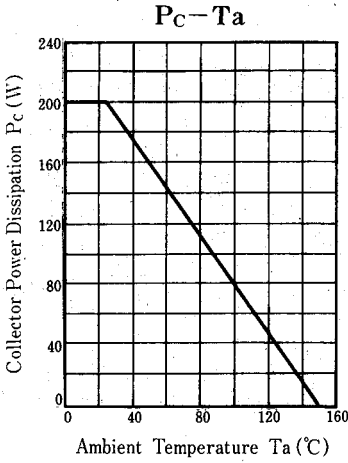
### ■ Type Name Marking



### ■ Package Dimensions



Marking Symbol : 4Y



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