

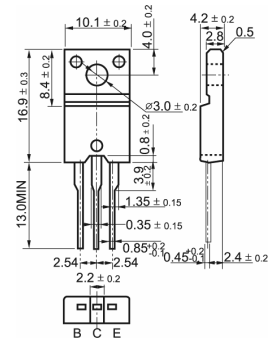
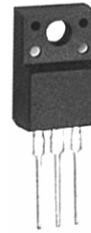


2SC4596E

SILICON EPITAXIAL PLANNAR TRANSISTOR

GENERAL DESCRIPTION

High frequency, high power NPN transistors in a plastic envelope, primarily for use in audio and general purpose



TO-220F

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V_{CESM}	Collector-emitter voltage peak value	$V_{BE} = 0V$	-	100	V
V_{CEO}	Collector-emitter voltage (open base)		-	60	V
I_C	Collector current (DC)		-	5	A
I_{CM}	Collector current peak value		-		A
P_{tot}	Total power dissipation	$T_{mb} \leq 25^\circ C$	-	25	W
V_{CEsat}	Collector-emitter saturation voltage	$I_C = 2A; I_B = 0.2A$	-	1.5	V
V_{BE}	Emitter forward voltage	$I_E = 2A$	-	1.5	V
t_f	Fall time	$I_C = 2A, I_{B1} = -I_{B2} = 0.2A, V_{CC} = 30V$	-	0.5	μs

LIMITING VALUES

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V_{CESM}	Collector-emitter voltage peak value	$V_{BE} = 0V$	-	100	V
V_{CEO}	Collector-emitter voltage (open base)		-	60	V
V_{EBO}	Emitter-base voltage (open collector)		-	5	V
I_C	Collector current (DC)		-	5	A
I_B	Base current (DC)		-	1	A
P_{tot}	Total power dissipation	$T_{mb} \leq 25^\circ C$	-	25	W
T_{sta}	Storage temperature		-55	150	$^\circ C$
T_j	Junction temperature		-	150	$^\circ C$

ELECTRICAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
I_{CBO}	Collector-base cut-off current	$V_{CB} = 100V$		0.1	mA
I_{EBO}	Emitter-base cut-off current	$V_{EB} = 5V$		0.1	mA
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C = 1mA$	60		V
V_{CEsat}	Collector-emitter saturation voltages	$I_C = 2A; I_B = 0.2A$		1.5	V
h_{FE}	DC current gain	$I_C = 1A; V_{CE} = 5V$	100	200	
f_T	Transition frequency at $f = 30MHz$	$I_C = 0.5A; V_{CE} = 10V$	120		MHz
C_c	Collector capacitance at $f = 1MHz$	$V_{CB} = 10V$		80	pF
t_{on}	On times	$I_C = 2A, I_{B1} = -I_{B2} = 0.2A, V_{CC} = 30V$		0.5	us
t_s	Turn-off storage time	$I_C = 2A, I_{B1} = -I_{B2} = 0.2A, V_{CC} = 30V$		1.5	us
t_f	Fall time	$I_C = 2A, I_{B1} = -I_{B2} = 0.2A, V_{CC} = 30V$		0.5	us