Ordering number:EN3172

PNP/NPN Epitaxial Planar Silicon Transistors

2SA1580/2SC4104

High-Definition CRT Display Applications

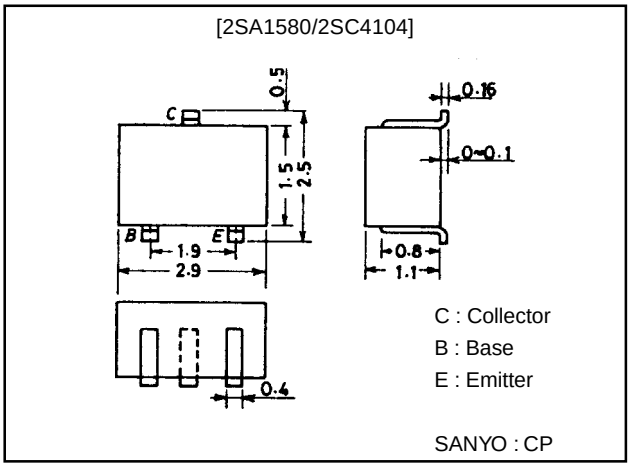
Features

- High f_T.
- Small reverse transfer capacitance.
- Adoption of FBET process.

Package Dimensions

unit:mm

2018A



( ) : 2SA1580

Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(–)70	V
Collector-to-Emitter Voltage	V_{CEO}		(–)60	V
Emitter-to-Base Voltage	V_{EBO}		(–)4	V
Collector Current	I_C		(–)50	mA
Collector Current (Pulse)	I_{CP}		(–)100	mA
Collector Dissipation	P_C		200	mW
Junction Temperature	Tj		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=(–)40V, I_E=0			(–)0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(–)3V, I_C=0			(–)1.0	μA
DC Current Gain	h_{FE}	V_{CE}=(–)10V, I_C=(–)10mA	60*		270*	
Gain-Bandwidth Product	f_T	V_{CE}=(–)10V, I_C=(–)10mA	350	700		MHz
Base-to-Collector Time Constant	$r_{bb'}C_C$	V_{CE}=(–)10V, I_C=(–)10mA		8		ps
Output Capacitance	C_{ob}	V_{CB}=(–)10V, f=1MHz		1.3		pF
				(1.7)		pF
Reverse Transfer Capacitance	C_{re}	V_{CB}=(–)10V, f=1MHz		1.0		pF
				(1.3)		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=(–)20mA, I_B=(–)2mA			0.5	V
					(–0.6)	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=(–)20mA, I_B=(–)2mA			(–)1.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(–)10μA, I_E=0	(–)70			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(–)1mA, R_{BE}=∞	(–)60			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=(–)10μA, I_C=0	(–)4			V

* : The 2SA1580/2SC4104 are classified by 10mA h_{FE} as follows :

60	3	120	90	4	180	135	5	270

Marking 2SA1580 : QL
2SC4104 : YY
h_{FE} rank : 3,4,5

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