Ordering number:EN3338

NPN Triple Diffused Planar Silicon Transistor

2SC4475

1800V/3mA High-Voltage Amplifier, High-Voltage Switching Applications

Applications

- High voltage amplifier.
- High voltage switching.
- Dynamic focus.

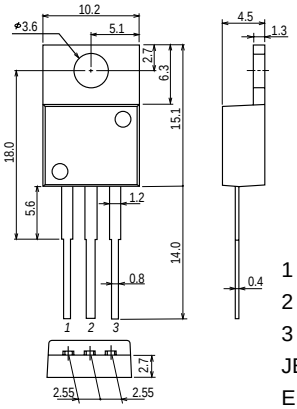
Features

- High breakdown voltage (V_{CEO} min=1800V).
- Small C_{ob} (C_{ob} typ=1.4pF).
- Wide ASO.
- High reliability (Adoption of HVP process).

Package Dimensions

unit:mm

2010C



Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		2000	V
Collector-to-Emitter Voltage	V_{CEO}		1800	V
Emitter-to-Base Voltage	V_{EBO}		5	V
Collector Current	I_C		3	mA
Collector Current (Pulse)	I_{CP}		10	mA
Collector Dissipation	P_C		1.75	W
Junction Temperature	Tj		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

Electrical Characteristics at Ta = 25˚C

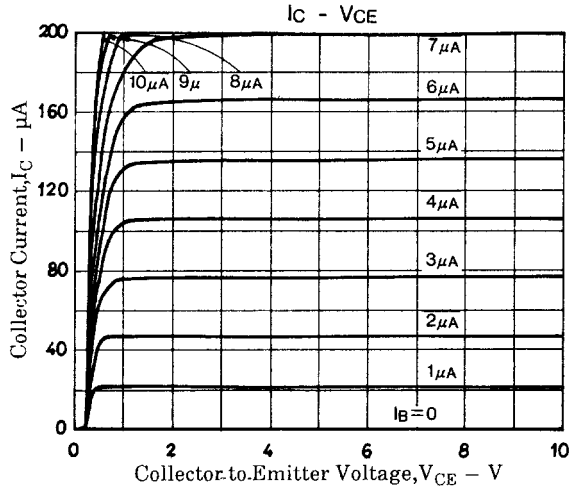
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=1800V, I_E=0			1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=4V, I_C=0			1	μA
DC Current Gain	h_{FE}	V_{CE}=5V, I_C=100μA	10		60	
Gain-Bandwidth Product	f_T	V_{CE}=10V, I_C=200μA		6		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=200μA, I_B=40μA			5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=200μA, I_B=40μA			2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=10μA, I_E=0	2000			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=100μA, R_{BE}=∞	1800			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=10μA, I_C=0	5			V
Output Capacitance	C_{ob}	V_{CB}=100V, f=1MHz		1.4		pF

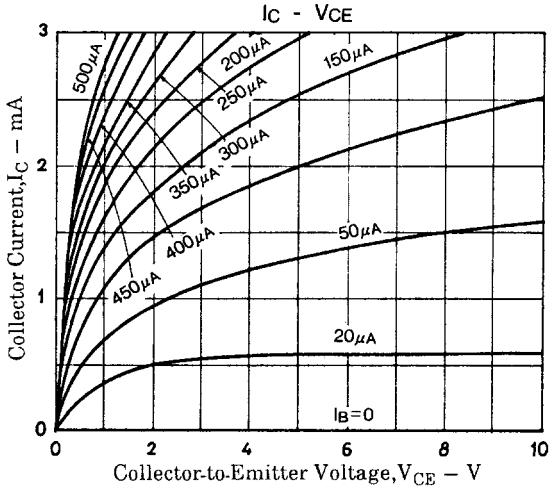
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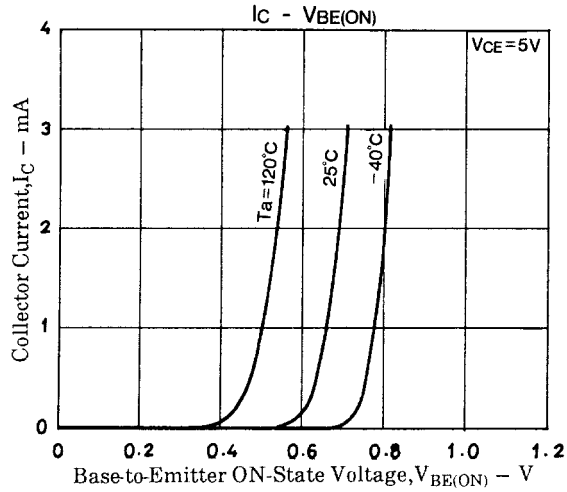
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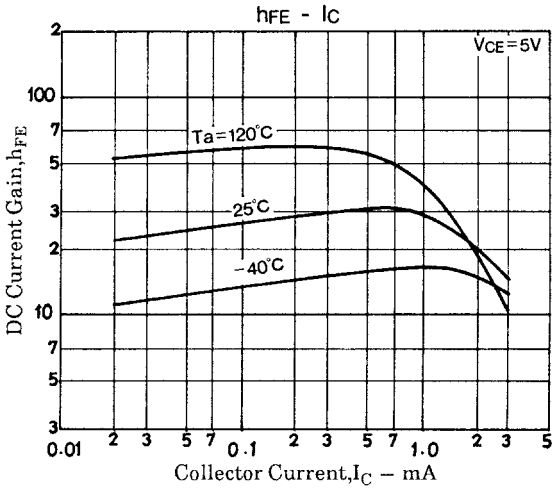
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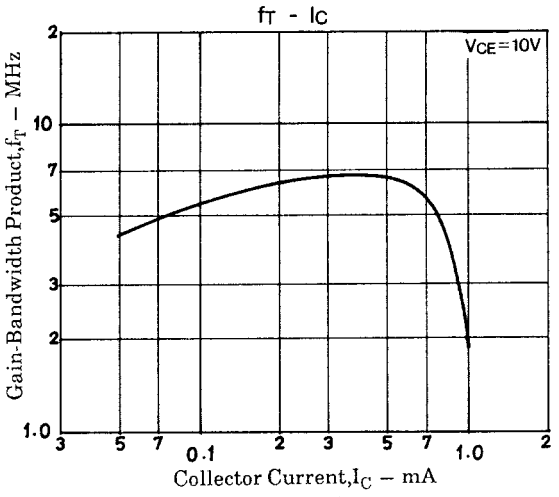
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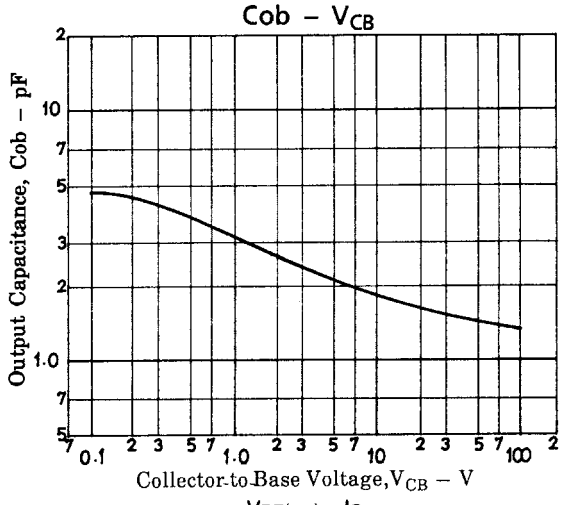

IC - VCE
Collector Current,IC – μA
Collector-to-Emitter Voltage,VCE – V
7μA
6μA
5μA
4μA
3μA
2μA
1μA
IB=0
10μA
9μ
8μA

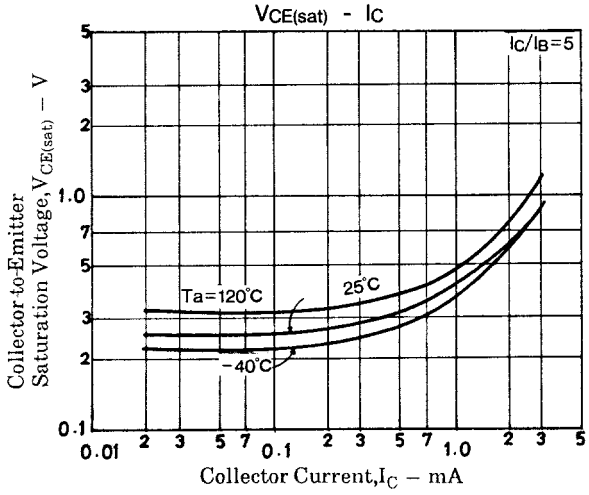

IC - VCE
Collector Current,IC – mA
Collector-to-Emitter Voltage,VCE – V
500μA
200μA
150μA
250μA
300μA
350μA
400μA
450μA
50μA
20μA
IB=0

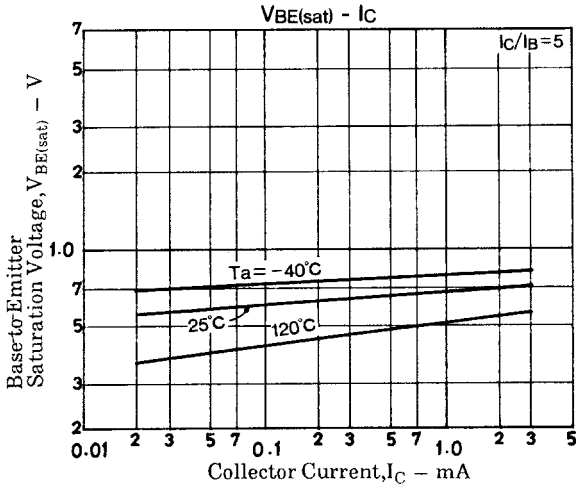

IC - VBE(ON)
VCE=5V
Collector Current,IC – mA
Base-to-Emitter ON-State Voltage,VBE(ON) – V
Ta=120°C
25°C
–40°C

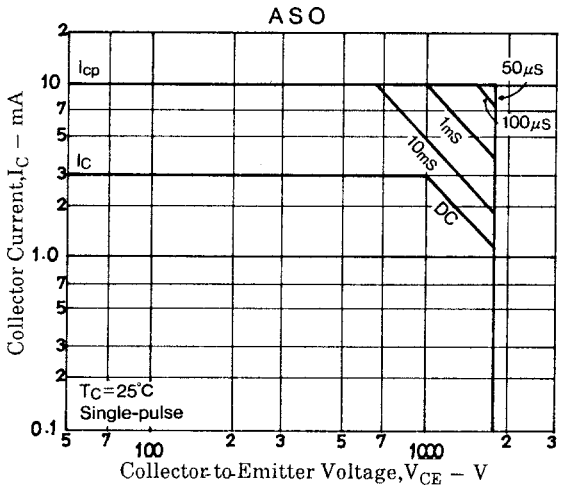

hFE - IC
VCE=5V
DC Current Gain,hFE
Collector Current,IC – mA
Ta=120°C
25°C
–40°C

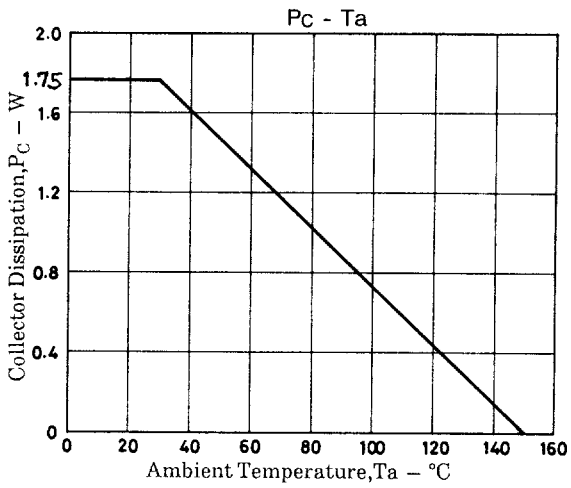

fT - IC
VCE=10V
Gain-Bandwidth Product,fT – MHz
Collector Current,IC – mA


Cob – VCB
Output Capacitance, Cob – pF
Collector-to-Base Voltage,VCB – V


VCE(sat) - IC
IC/IB=5
Collector-to-Emitter
Saturation Voltage,VCE(sat) – V
Collector Current,IC – mA
Ta=120°C
25°C
–40°C


VBE(sat) - IC
IC/IB=5
Base-to-Emitter
Saturation Voltage,VBE(sat) – V
Collector Current,IC – mA
Ta=–40°C
25°C
120°C





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