Ordering number: EN 2827

SANYO No. 2827

HPA150R

NPN Triple Diffused Planar Silicon Composite Transistor

Very High-Definition Color Display, Horizontal Deflection Output Applications

Features

- High speed (t_f typ = 100ns)
- High breakdown voltage (V_{CBO} = 1500V)
- High-speed damper diode placed in one package (t_{fr} = 0.2μs max)
- Adoption of MBIT process
- High reliability (adoption of HVP process)

Absolute Maximum Ratings at Ta = 25°C

				unit
Collector-to-Base Voltage	V_{CBO}		1500	V
Collector-to-Emitter Voltage	V_{CEO}		800	V
Emitter-to-Base Voltage	V_{EBO}		6	V
Collector Current	I_C		15	A
Peak Collector Current	i_{cp}		35	A
Diode Forward Current	I_O		10	A
Peak Diode Forward Current	i_{op}	PW ≦ 100μs, duty ≦ 50%	15	A
Total Power Dissipation	P_T	Tc = 25°C	180	W
Juction Temperature	Tj		150	°C
Storage Temperature	Tstg		−55 to +150	°C

Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB} = 1500V, I_E = 0			5	mA
Collector Sustain Voltage	$V_{CEO(sus)}$	I_C = 100mA, I_B = 0	800			V
Emitter Cutoff Current	I_{EBO}	V_{EB} = 4V, I_C = 0			1.0	mA
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 10A, I_B = 2.5A			5	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 10A, I_B = 2.5A			1.5	V
DC Current Gain	$h_{FE(1)}$	V_{CE} = 5V, I_C = 1.0A	8			
	$h_{FE(2)}$	V_{CE} = 5V, I_C = 10A	4※		10※	

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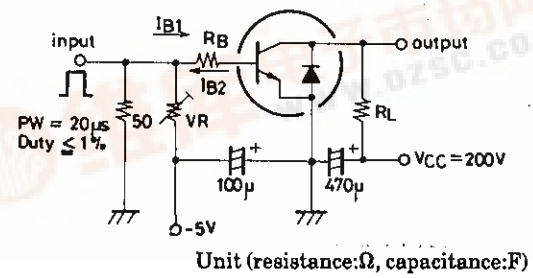
※ The HPA150R is classified by 10A h_{FE} as follows :

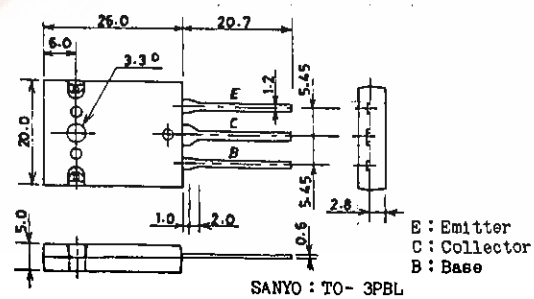
h_{FE}	4 to 6	5 to 8	7 to 10
Rank	2	3	4

Switching Time Test Circuit



Unit (resistance:Ω, capacitance:F)

Package Dimensions 2048 (unit: mm)



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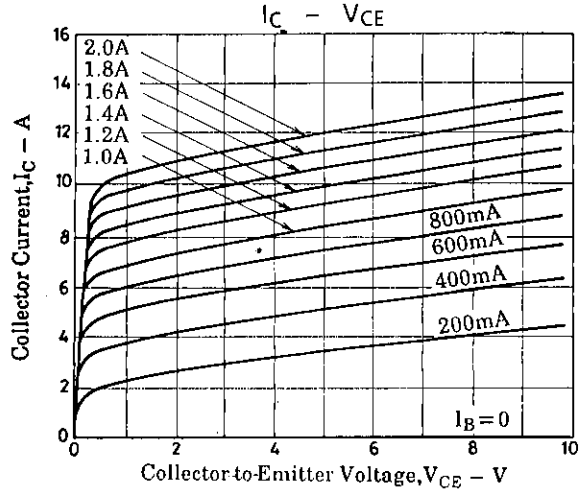
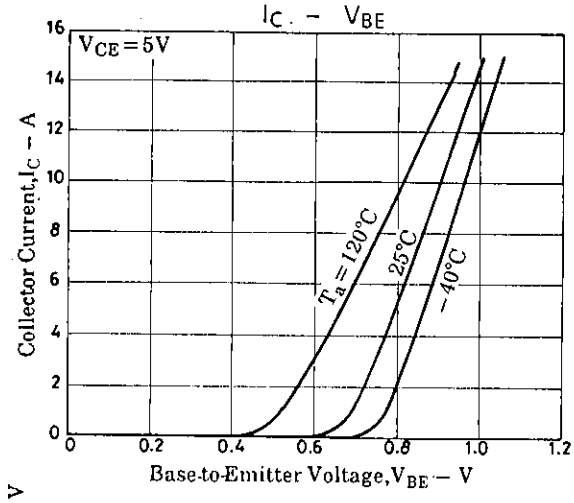
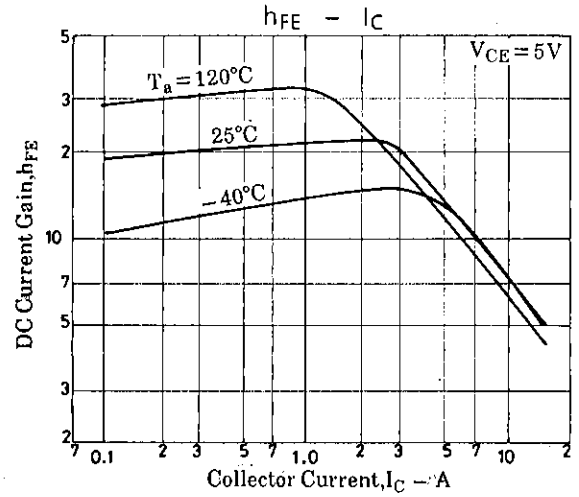
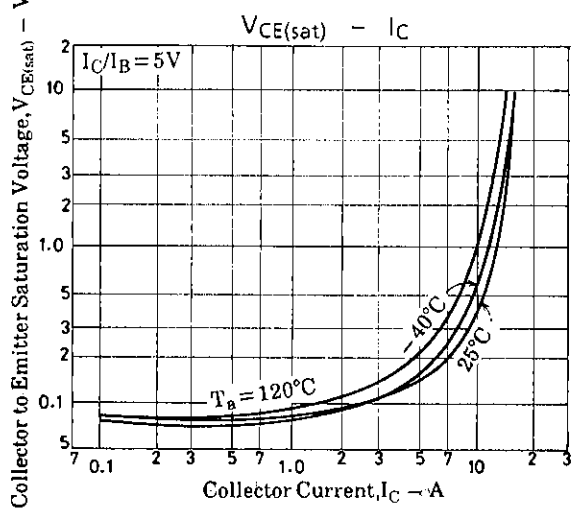
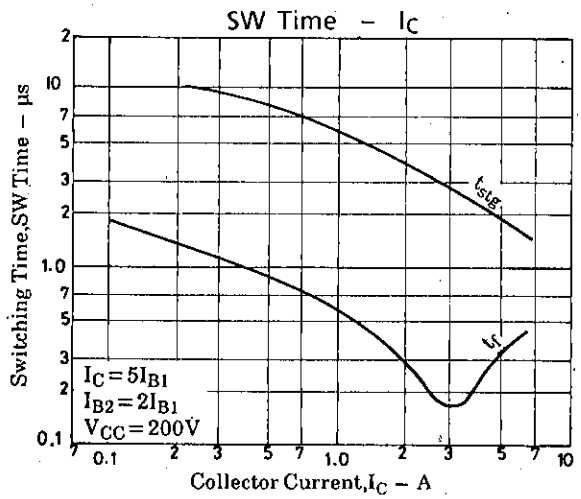
			min	typ	max	unit
Storage Time	t_{stg}	$I_C=8A, I_{B1}=1.6A, I_{B2}=-3.2A$			3.0	μs
Fall Time	t_f	$I_C=8A, I_{B1}=1.6A, I_{B2}=-3.2A$		0.1	0.2	μs
Diode Forward Voltage	$V_{F(1)}$	$I_F=10A$			3	V
	$V_{F(2)}$	$I_F=15A$			5	V
Diode Reverse Recovery Time	t_{rr}	$I_F=-I_R=100mA$			1	μs
Diode Forward Recovery Time	t_{fr}	$I_F=100mA$		0.1	0.2	μs

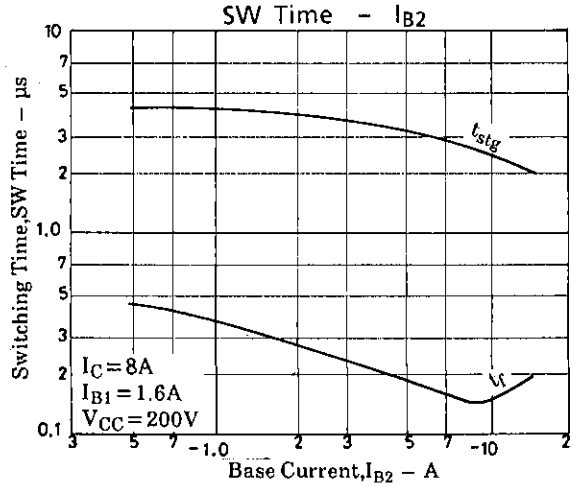




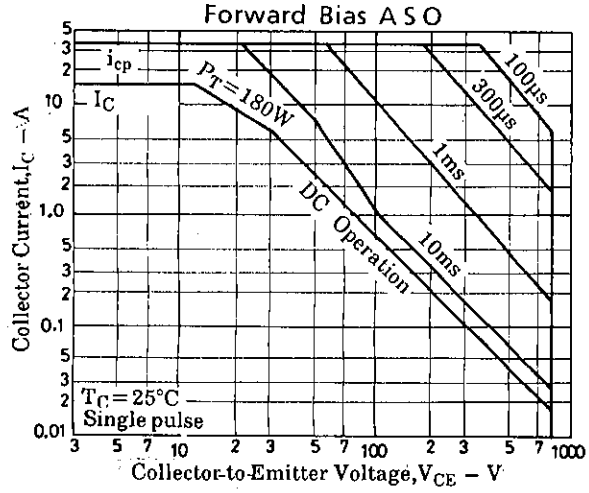




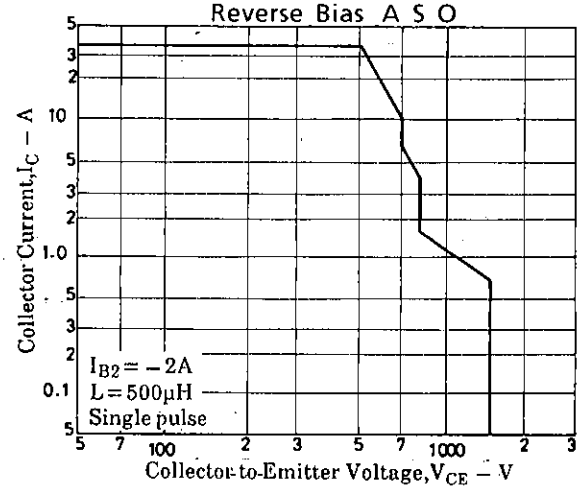




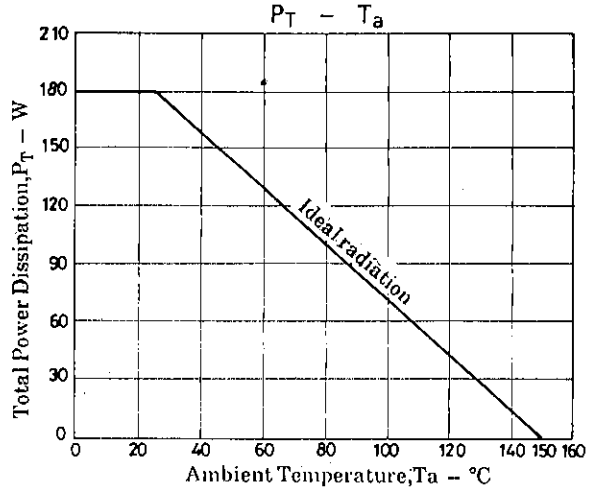
Forward Bias A S O



Reverse Bias A S O



P_T – T_a



I_F – V_F