

**SANYO**

No.837E

**2SD1159**

NPN Triple Diffused Planar Silicon Transistor

TV Horizontal Deflection Output,  
High-Current Switching Applications

**Features**

- Capable of efficient drive with small internal loss due to excellent  $t_f$ .

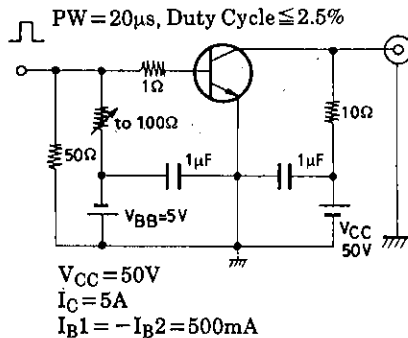
**Absolute Maximum Ratings at  $T_a = 25^\circ\text{C}$**

				unit
Collector-to-Base Voltage	$V_{CB0}$		200	V
Collector-to-Emitter Voltage	$V_{CEO}$		60	V
Emitter-to-Base Voltage	$V_{EBO}$		6	V
Collector Current	$I_C$		4.5	A
Collector Current (Pulse)	$I_{CP}$		10	A
Collector Dissipation	$P_C$	$T_c = 25^\circ\text{C}$	40	W
Junction Temperature	$T_j$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

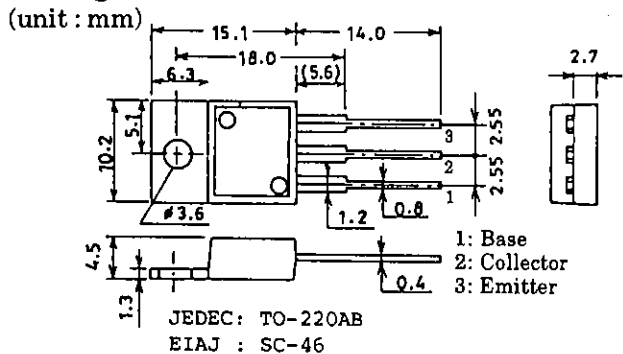
**Electrical Characteristics at  $T_a = 25^\circ\text{C}$**

			min	typ	max	unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 40\text{V}, I_E = 0$			0.1	mA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 5\text{V}, I_C = 0$			0.1	mA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = 5\text{V}, I_C = 1\text{A}$	30		160	
	$h_{FE(2)}$	$V_{CE} = 5\text{V}, I_C = 4\text{A}$	25			
Gain-Bandwidth Product	$f_T$	$V_{CE} = 5\text{V}, I_C = 1\text{A}$		10		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = 4\text{A}, I_B = 0.4\text{A}$		0.5	1.0	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = 4\text{A}, I_B = 0.4\text{A}$			1.5	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 5\text{mA}, I_E = 0$	200			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 5\text{mA}, R_{BE} = \infty$	60			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 5\text{mA}, I_C = 0$	6			V
Fall Time	$t_f$	See specified Test Circuit.		0.2	0.5	$\mu\text{s}$

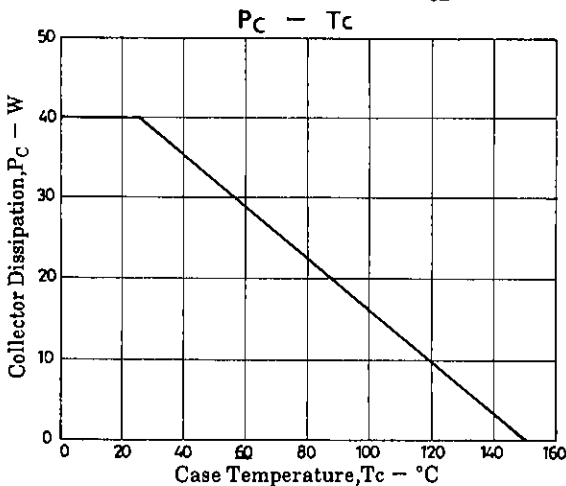
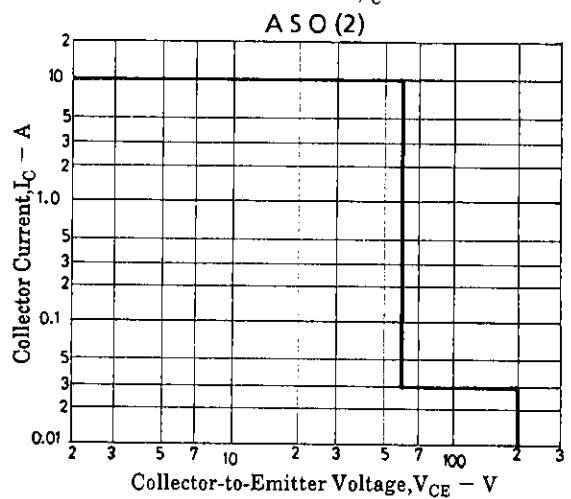
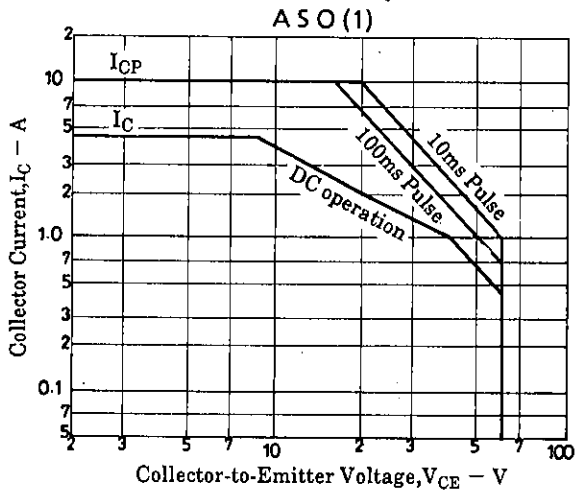
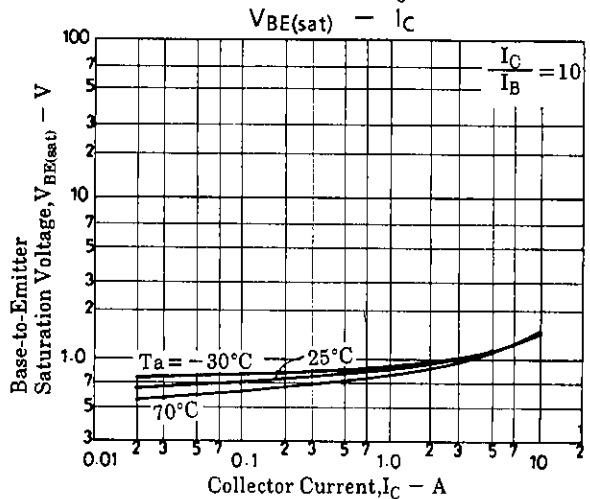
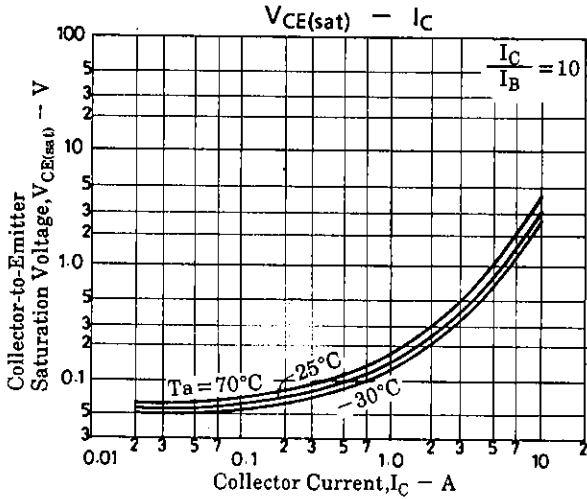
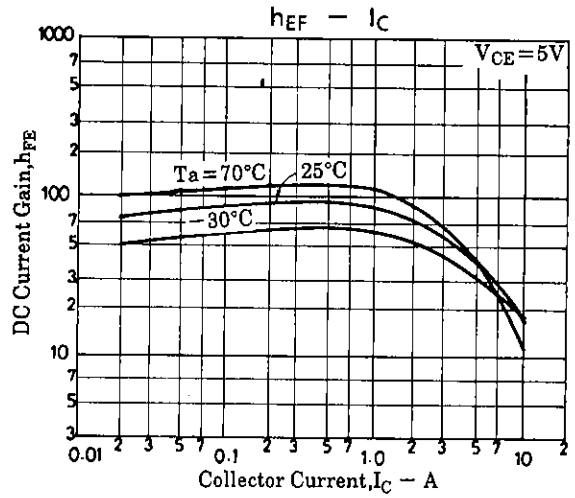
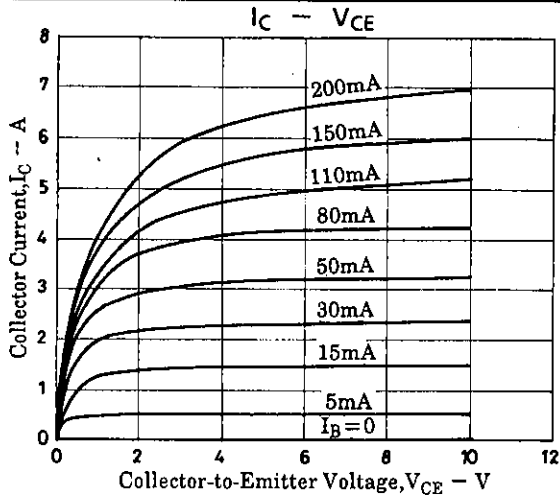
**Specified Test Circuit**



**Package Dimensions 2010C**



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