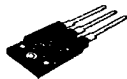


2SD1650

2039

NPN Triple Diffused Planar
Silicon Transistor

T-33-11

Color TV Horizontal Deflection Output Applications(with Damper Diode)

©1748B

Applications

- High-voltage, power switching

Features

- Fast speed ($t_{max}=0.4\mu s$).
- High reliability (Adoption of HVP process).
- High breakdown voltage ($V_{CBO}=1500V$).
- Micaless package facilitating mounting operation.

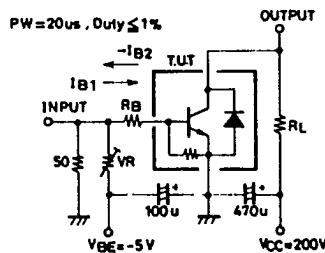
Absolute Maximum Ratings at $T_a=25^\circ C$

			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	3.5	A
Peak Collector Current	i_{cp}	10	A
Collector Dissipation	P_C	50	W
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature	T_{stg}	-55 to +150	$^\circ C$

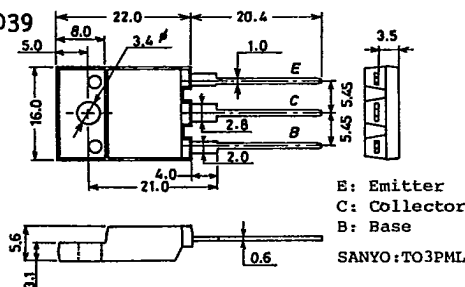
Electrical Characteristics at $T_a=25^\circ C$

		min	typ	max	unit
Collector Cutoff Current	I_{CBO} $V_{CB}=800V, I_E=0$			10	μA
Emitter Cutoff Current	I_{EBO} $V_{EB}=4V, I_C=0$	40		130	mA
DC Current Gain	h_{FE} $V_{CE}=5V, I_C=0.5A$	8			
Gain Bandwidth Product	f_T $V_{CE}=10V, I_C=0.5A$		3		MHz
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$ $I_C=2.5A, I_B=0.8A$			8	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$ $I_C=2.5A, I_B=0.8A$			1.5	V
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$ $I_C=5mA, I_E=0$	1500			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$ $I_C=100mA, R_{BE}=\infty$	800			V
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$ $I_E=200mA, I_C=0$	7			V
Diode Forward Voltage	V_F $I_{EC}=3.5A$			2	V
Fall Time	t_f $I_C=3A, I_{B1}=0.8A, I_{B2}=-1.6A, V_{CC}=200V, R_L=66.7\Omega$			0.4	μs

Switching Time Test Circuit



Case Outline 2039 (unit:mm)

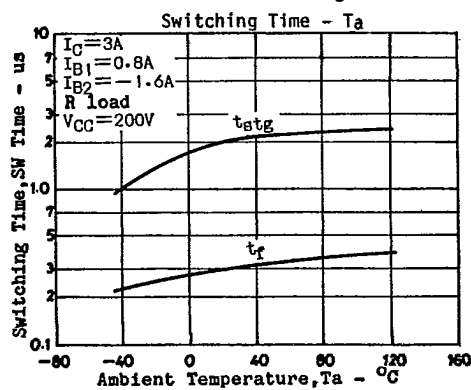
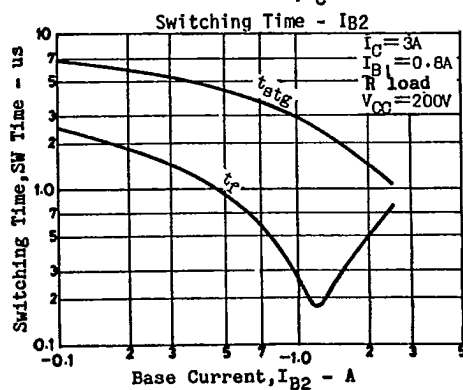
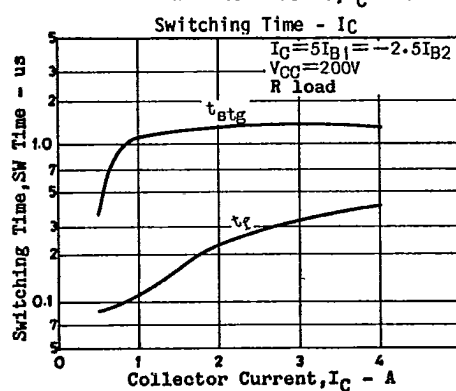
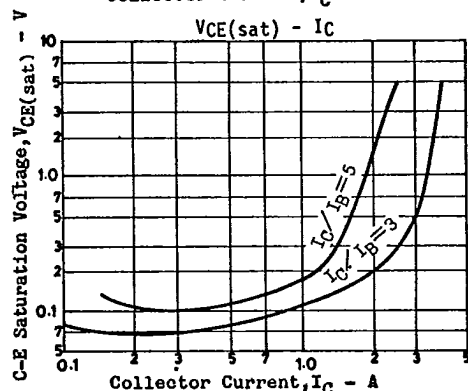
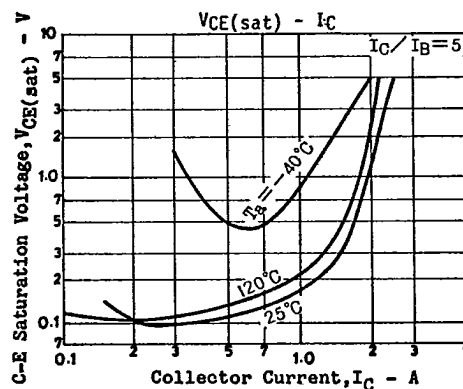
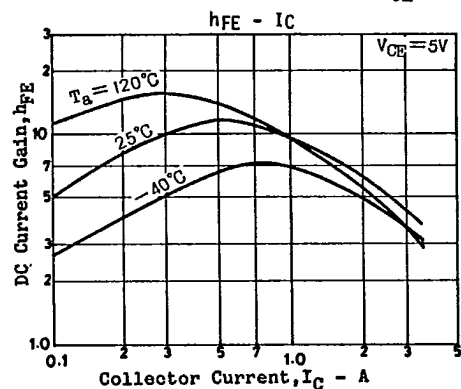
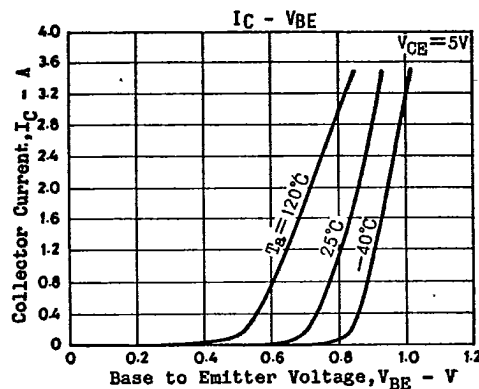
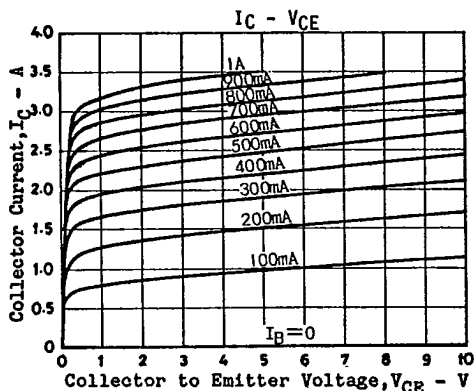


5277KI/D244KI, TS No. 1748-1/3

1473

2SD1650

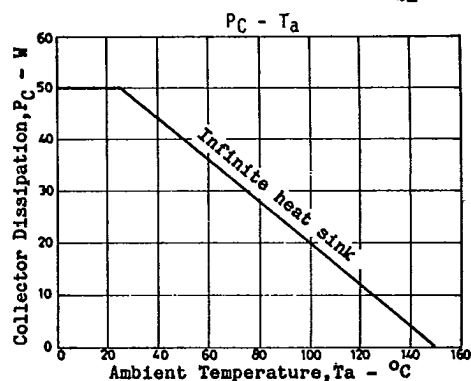
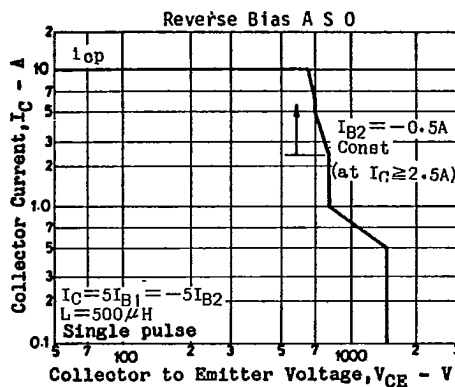
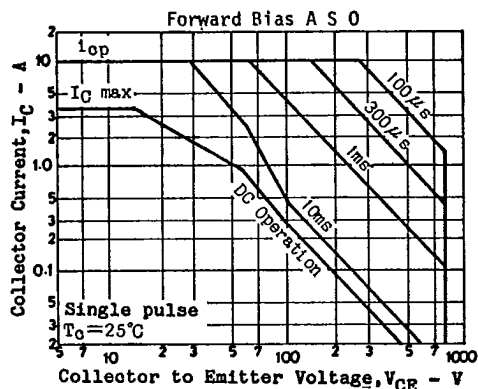
T-33-11



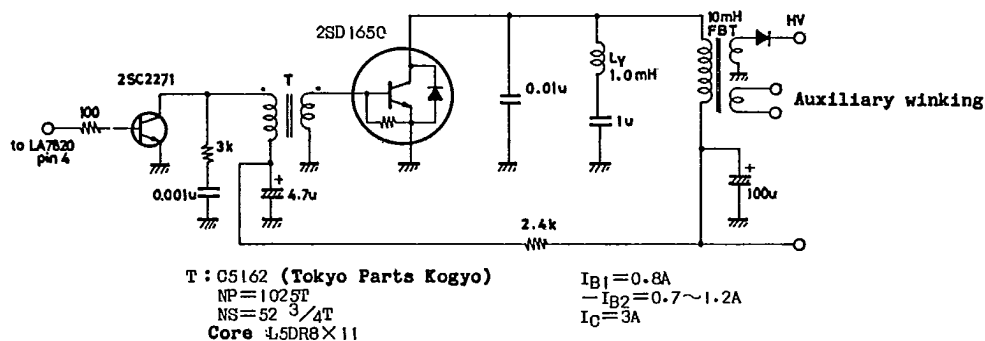
1474

2SD1650

T-33-11



Sample Application Circuit



1475