

No.1752

# 2SD1654

Silicon NPN Triple Diffused Planar Transistor  
COLOR TV HORIZONTAL DEFLECTION OUTPUT APPLICATIONS  
(WITH DAMPER DIODE)

### Applications

- High-voltage, power switching

### Features

- Fast speed ( $t_{f,max}=0.7\mu s$ ).
- High reliability (Adoption of HVP process).
- High breakdown voltage ( $V_{CBO}=1500V$ ).
- Micaless package facilitating mounting operation.

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

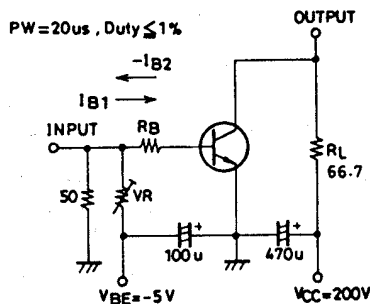
Parameter	Symbol	Value	Unit
Collector to Base Voltage	$V_{CBO}$	1500	V
Collector to Emitter Voltage	$V_{CEO}$	800	V
Emitter to Base Voltage	$V_{EBO}$	6	V
Collector Current	$I_C$	3.5	A
Peak Collector Current	$i_{cp}$	10	A
Collector Dissipation	$P_C$	50	W
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ C$

$T_C=25^\circ C$

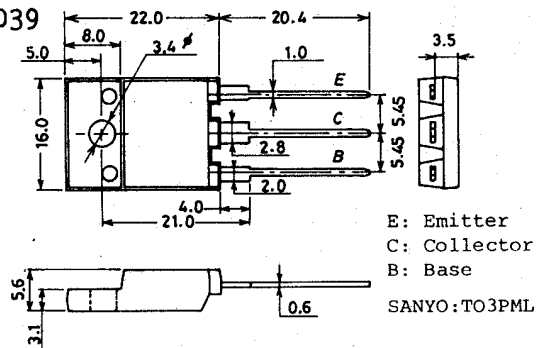
### Electrical Characteristics at $T_a=25^\circ C$

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=800V, I_E=0$			10	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=5V, I_C=0$			1	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
Fall Time	$t_f$	$I_C=3A, I_{B1}=0.8A, I_{B2}=-1.6A$			0.7	$\mu s$

### Switching Time Test Circuit



### Case Outline 2039 (unit:mm)



These specifications are subject to change without notice.

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