

SILICON PLASTIC POWER TRANSISTOR

NPN 2SC2233

4A 40W

Technical Data

...designed for use in B/W TV horizontal deflection output.

- ☞ Collector-Base Voltage: $V_{CBO}=200V$
- ☞ DC Current Gain: 20 @ $I_C=4A$
- ☞ TO-220 Package

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector- Emitter Voltage	V_{CEO}	60	Vdc
Collector – Base Voltage	V_{CB}	200	Vdc
Emitter Base Voltage	V_{EB}	5	Vdc
Collector Current – Continuos	I_C	4	Adc
Base Current	I_B	2	Adc
Total Power Dissipation @ $T_C = 25^{\circ}C$ Derate above $25^{\circ}C$	PD	40 0.32	Watts W/ $^{\circ}C$
Operating and Storage junction Temperature Range	T_j, T_{stg}	-55 to +150	$^{\circ}C$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max.	Unit
Thermal resistance junction to case	R_{thjc}	3.125	$^{\circ}C/W$



ELECTRICAL CHARACTERISTICS : [$T_c = 25^\circ\text{C}$ unless otherwise noted]

Characteristic	Symbol	Min	Typ	Max	Unit
* OFF CHARACTERISTICS :					
Collector–Emitter Breakdown Voltage [$I_c = 20\text{ mA}$, $I_B = 0$]	$V_{CEO(sus)}$	60			Vdc
Collector Cutoff Current [$V_{CB} = 170\text{ Vdc}$, $I_B = 0$]	I_{CB0}			10	μA
Collector–Base Breakdown Voltage [$I_c = 1\text{ mA}$, $I_E = 0$]	BV_{CBO}	200			Vdc
Emitter-Base Breakdown Voltage [$I_E = 1\text{ mA}$, $I_C = 0$]	BV_{EBO}	5			Vdc
* ON CHARACTERISTICS (1):					
DC Current Gain [$I_c = 1.0\text{ A}$, $V_{CE} = 5.0\text{ Vdc}$] [$I_c = 4\text{ A}$, $V_{CE} = 5.0\text{ Vdc}$]	h_{FE}	30 20		150	
Collector-Emitter Saturation Voltage [$I_c = 3\text{ A}$, $I_B = 0.3\text{ A}$]	$V_{CE(sat)}$			1	Vdc
Base Emitter Saturation Voltage [$I_c = 4\text{ A}$, $I_B = 0.4\text{ A}$]	$V_{BE(sat)}$			1.5	Vdc
DYNAMIC CHARACTERISTICS :					
Current Gain – Bandwidth Product [$I_c = 0.5\text{ A}$, $V_{CE} = 5\text{ Vdc}$, $f_{test} = 1.0\text{ MHz}$]	f_T		10		MHz

Σ (1) Pulse Test : Pulse Width $< 300\mu\text{s}$, Duty Cycle $< 2.0\%$