

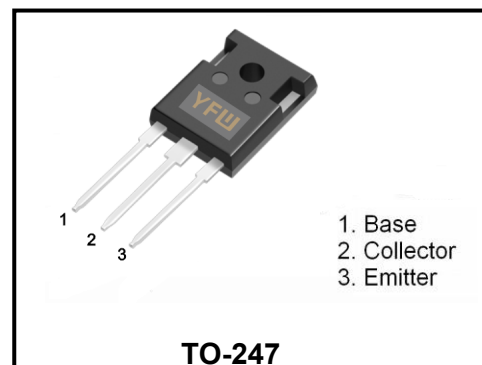
NPN Plastic-Encapsulate Transistors

APPLICATIONS

- ◆Power amplifier
- ◆Switching circuit

FEATURES

- ◆Low Collector-emitter saturation voltage
 $V_{CE(sat)}=1.0V(\text{Max.})@I_C=3A, I_B=0.3A$
- ◆High Current Capability: $I_C = 5A$



Absolute Maximum Rating ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter		Symbol	Ratings	Unit
Collector-base voltage		BV_{CBO}	200	V
Collector-emitter voltage		BV_{CEO}	100	V
Emitter-base voltage		BV_{EBO}	12	V
Collector current (DC)		I_C	5	A
Collector current (Pulse)		I_{CP}	10	A
Base current		I_B	2.5	A
Total power dissipation	$T_C=25^{\circ}\text{C}$	P_D	50	W
	Derate above 25°C		0.4	W/ $^{\circ}\text{C}$
Junction temperature		T_j	150	$^{\circ}\text{C}$
Storage temperature		T_{stg}	-40~150	$^{\circ}\text{C}$

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

Thermal Characteristics ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Max.	Unit
Thermal resistance, junction to case	$R_{\theta JC}$	2.5	$^{\circ}\text{C}/\text{W}$

* Device mounted on minimum pad size

Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	BV_{CBO}	$I_C = 5mA, I_E = 0$	200			V
Collector-emitter breakdown voltage	BV_{CEO}	$I_C = 10mA, I_B = 0$	100			V
Emitter-base breakdown voltage	BV_{EBO}	$I_E = 5mA, I_C = 0$	12			V
Collector cut-off current	I_{CEX}	$V_{CE} = 100, V_{BE} = -1.5V$			10	μA
Collector cut-off current	I_{CBO}	$V_{CB} = 100V, I_E = 0$			10	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5V, I_C = 0$			10	μA
DC current gain ⁸	$h_{FE}(1)$	$V_{CE} = 5V, I_C = 0.3A$	60		320	
	$h_{FE}(2)$	$V_{CE} = 5V, I_C = 3A$	40			
Collector-emitter saturation voltage ⁸	$V_{CE(sat)}$	$I_C = 3A, I_B = 0.3A$			1.0	V
Base-emitter saturation voltage ⁸	$V_{BE(sat)}$	$I_C = 3A, I_B = 0.3A$			1.5	V
Turn-on time	t_{on}	$V_{CC} = 30V, I_C = 3.0A$ $I_{B1} = -I_{B2} = 300mA, R_L = 10\Omega$		0.5		μs
Storage time	t_{stg}			2.0		μs
Fall time	t_f			1.0		μs

* Pulse Test: Pulse Width=300 μs , Duty cycle $\leq 2\%$

 $h_{FE}(1)$ Classification

Classification	2SC2908-M	2SC2908-L	2SC2908-K
Range	60 ~ 120	100 ~ 200	160 ~ 320

Typical Characteristics

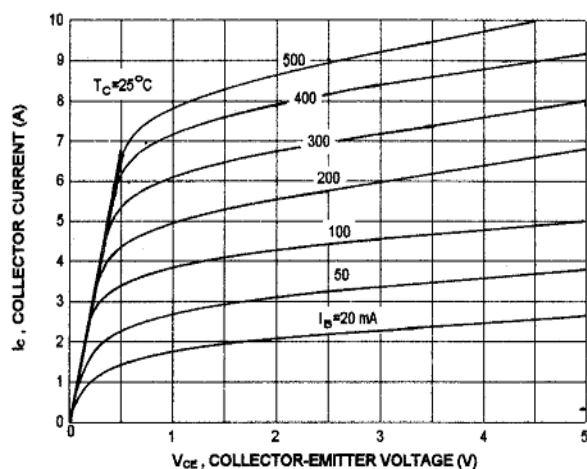


Figure 1. Static characteristic

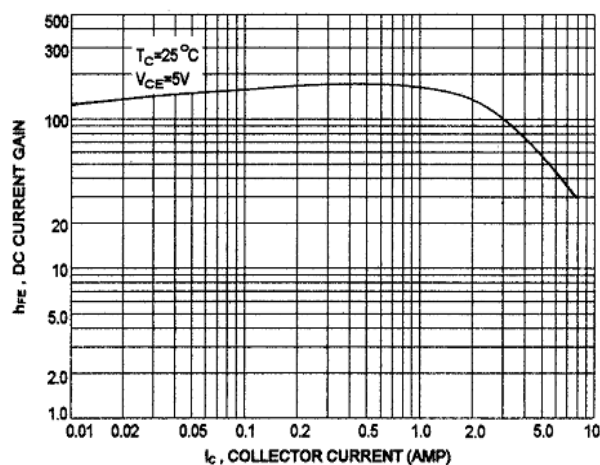


Figure 2. DC current Gain

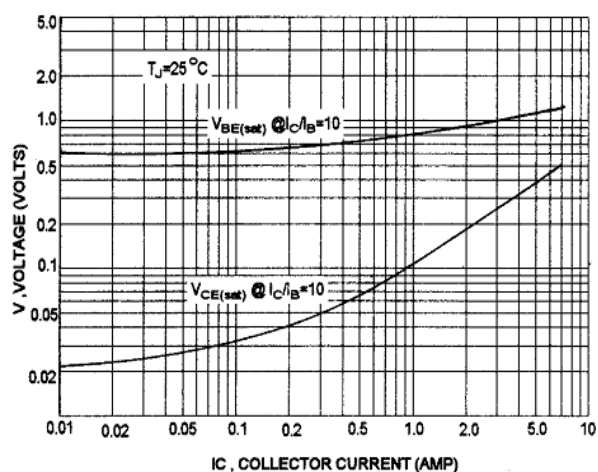


Figure 3. Collector-emitter saturation voltage
Base-emitter saturation voltage

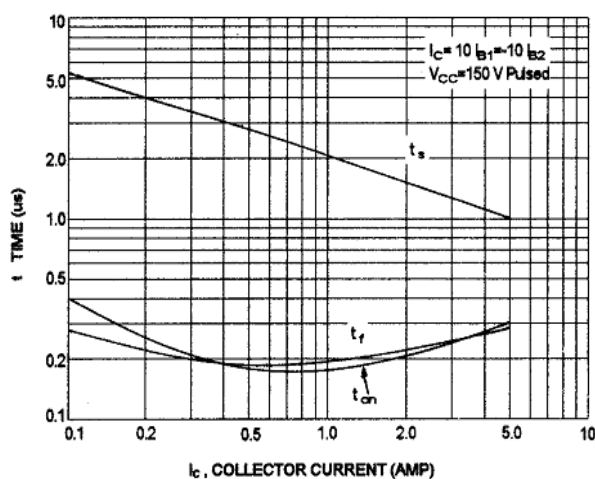


Figure 4. Switching time

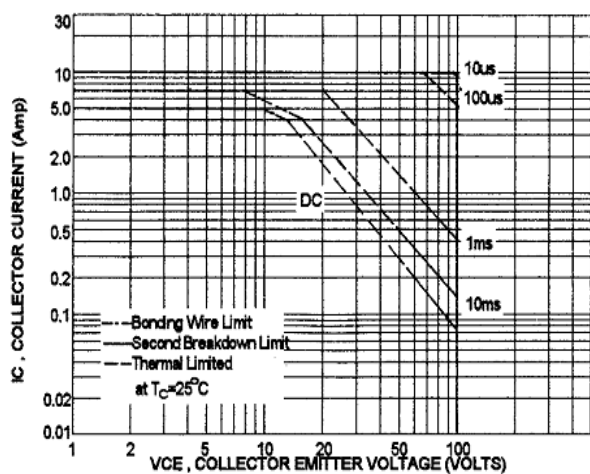


Figure 5. Safe Operating Area

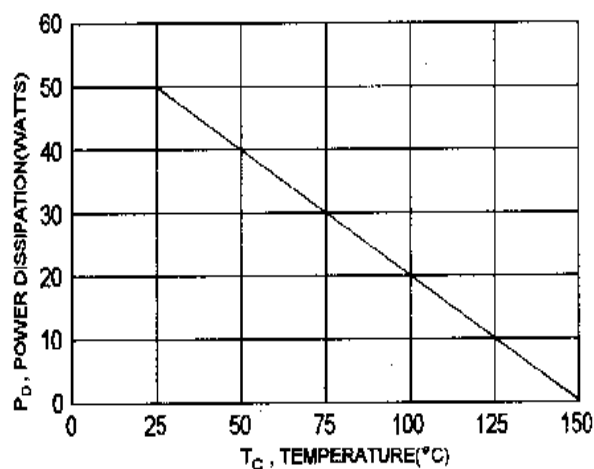
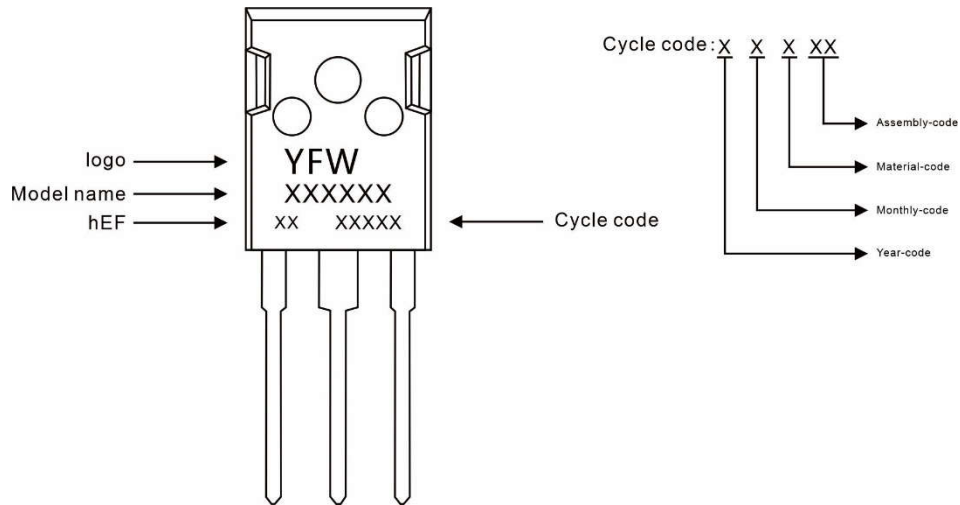


Figure 6. Power derating

Marking Diagram



Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
2SC2908	TO-247	0.209oz(5.93g)	30pcs/tube	600PCS/Box 2400PCS/Carton

Package Dimensions

TO-247

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.90	5.10	0.193	0.201
A1	1.90	2.10	0.075	0.083
A2	2.20	2.40	0.087	0.094
b	1.07	1.33	0.042	0.052
b1	1.90	2.30	0.075	0.091
b2	2.90	3.30	0.114	0.130
c	0.55	0.68	0.022	0.027
D	15.75	16.05	0.620	0.632
D1	11.60	12.00	0.457	0.472
E	20.20	20.80	0.795	0.819
e	5.45 (BSC)		0.215 (BSC)	
e1	10.90 (BSC)		0.429 (BSC)	
F	6.05	6.25	0.238	0.246
L	20.10	20.40	0.791	0.803
L1	4.05	4.35	0.159	0.171
Φ	3.50	3.80	0.138	0.150

Disclaimer

The information presented in this document is for reference only. GuangDong Youfeng Microelectronics Co.,Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise. The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), YFW or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale. This publication supersedes & replaces all information previously supplied. For additional information, please visit our website <https://www.yfwdiode.com>, or consult YFW sales office for further assistance.