

isc Silicon NPN Power Transistor

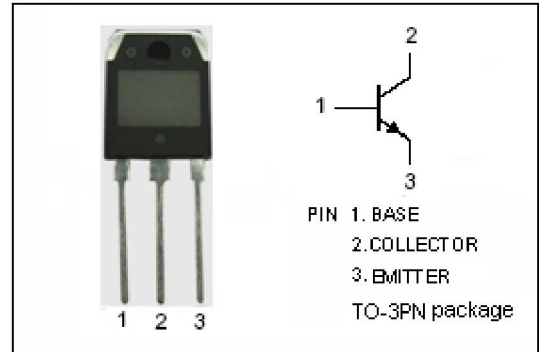
2SC2908

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CE(SUS)} = 100V(\text{Min})$
- Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 1.0V(\text{Max}) @ I_C=3.0A, I_B=0.3A$
- Switching Time- $t_f = 1.0 \mu s(\text{Max}) @ I_C=3.0A$

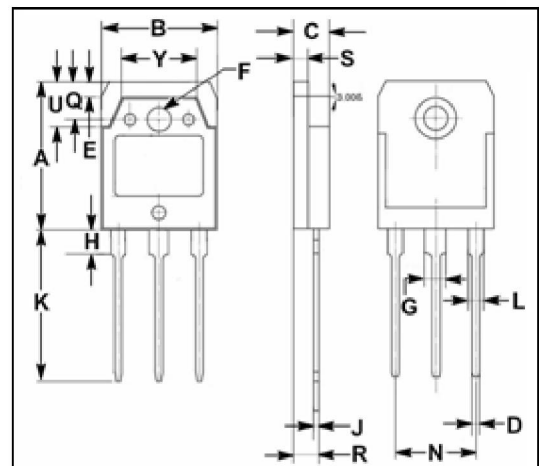
APPLICATIONS

- Designed for use in power amplifier and switching circuits.



ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	200	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	12	V
I_C	Collector Current-Continuous	5.0	A
I_{CM}	Collector Current-Peak	10	A
I_B	Base Current-Continuous	2.5	A
P_C	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	50	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



DIM	mm	
	MIN	MAX
A	19.90	20.10
B	15.38	15.42
C	4.75	4.85
D	0.90	1.10
E	1.90	2.10
F	3.40	3.60
G	2.98	3.02
H	3.20	3.40
J	0.595	0.605
K	19.95	20.25
L	1.98	2.02
N	10.89	10.91
Q	4.95	5.05
R	3.35	3.45
S	1.995	2.005
U	5.90	6.10
Y	9.90	10.10

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	2.5	$^\circ\text{C/W}$

isc Silicon NPN Power Transistor**2SC2908****ELECTRICAL CHARACTERISTICS** $T_c=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=3.0A; I_{B1}=0.3A, L=1.0mH$	100			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=3A; I_B=0.3A$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=3A; I_B=0.3A$			1.5	V
I_{CEX}	Collector Cutoff Current	$V_{CE}=100V; V_{BE(OFF)}=-1.5V$			10	μA
I_{CBO}	Collector Cutoff Current	$V_{CB}=100V; I_E=0$			10	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5V; I_C=0$			10	μA
h_{FE-1}	DC Current Gain	$I_C=0.3A; V_{CE}=5V$	60		320	
h_{FE-2}	DC Current Gain	$I_C=3.0A; V_{CE}=5V$	40			

Switching times

t_{on}	Turn-on Time	$I_C=3.0A, I_{B1}=-I_{B2}=0.3A$ $R_L=10\Omega; V_{CC}=30V$			0.5	μs
t_{stg}	Storage Time				2.0	μs
t_f	Fall Time				1.0	μs

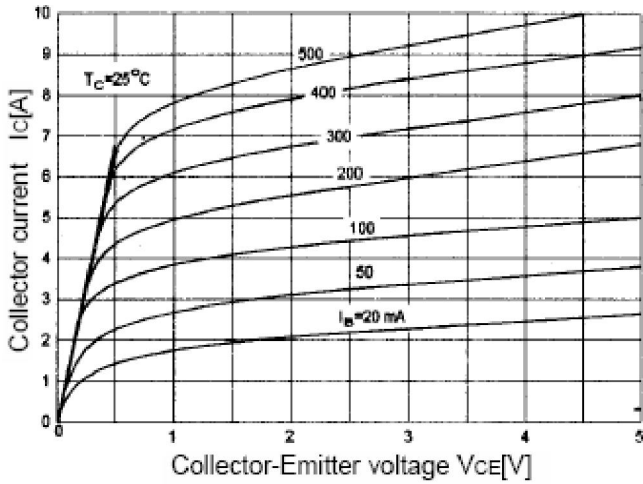
◆ h_{FE-1} Classifications

M	L	K
60-120	100-200	160-320

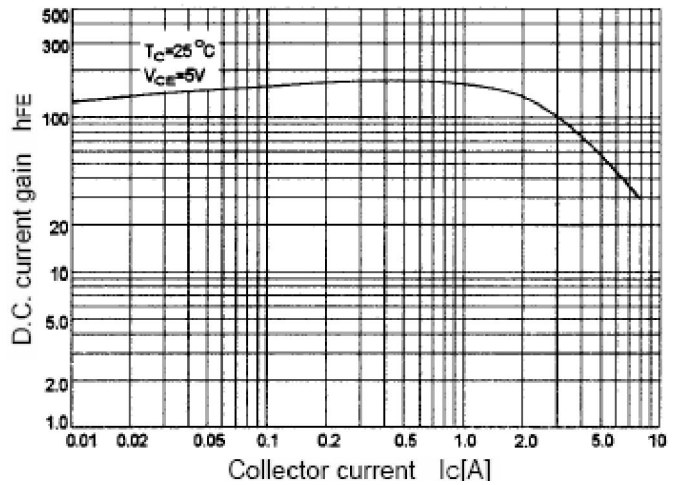
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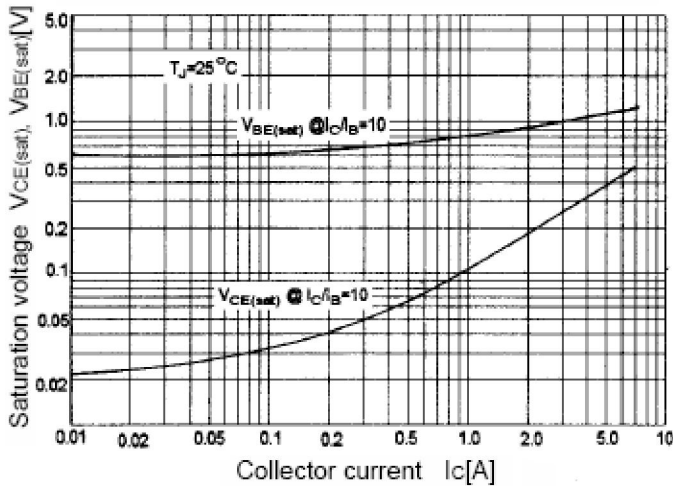
I_C - V_{CE} Characteristics



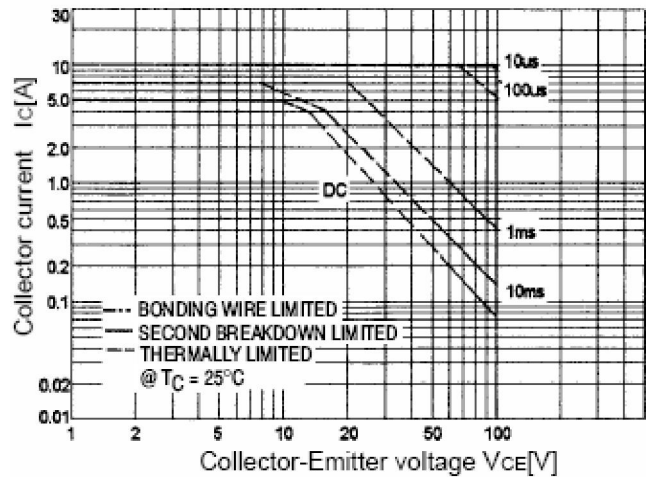
h_{FE} - I_C Characteristics



$V_{CE(sat)}$ - I_C & $V_{BE(sat)}$ - I_C Characteristics



Safe Operating Area



Power Derating

