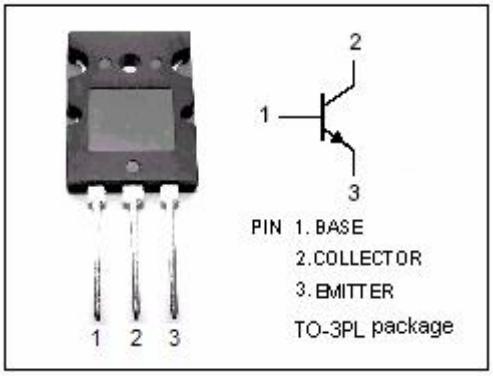
isc Silicon NPN Power Transistor — 2SD1313

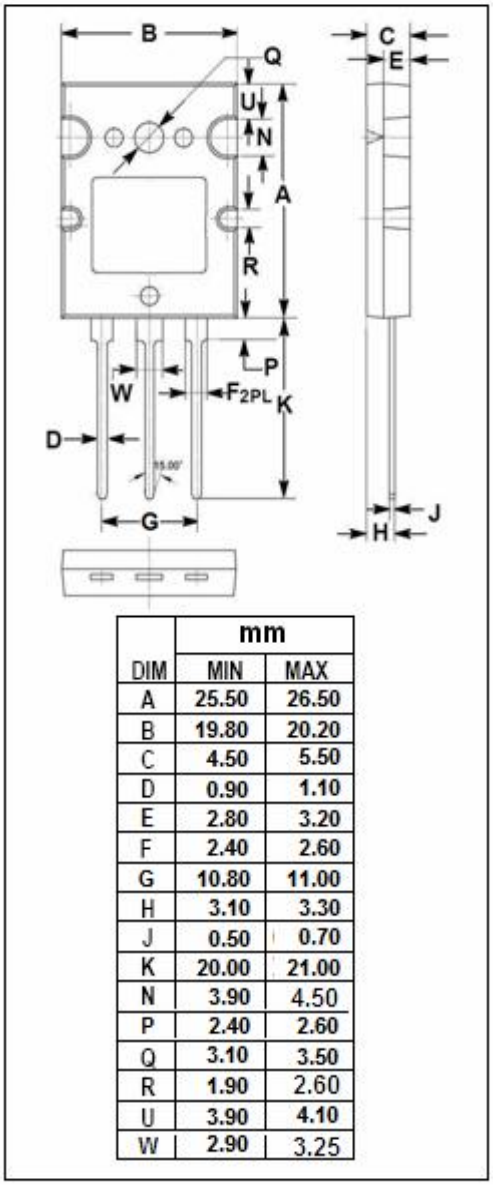
DESCRIPTION

- High Power Dissipation
- High Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 350V(Min)
- High Speed Switching
- Low Collector Saturation Voltage
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

- High power amplifier applications.
- High power switching applications.



DIM	mm MIN	mm MAX
A	25.50	26.50
B	19.80	20.20
C	4.50	5.50
D	0.90	1.10
E	2.80	3.20
F	2.40	2.60
G	10.80	11.00
H	3.10	3.30
J	0.50	0.70
K	20.00	21.00
N	3.90	4.50
P	2.40	2.60
Q	3.10	3.50
R	1.90	2.60
U	3.90	4.10
W	2.90	3.25

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	800	V
V_{CEO}	Collector-Emitter Voltage	350	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	25	A
I_{CM}	Collector Current-Pulse	35	A
I_B	Base Current-Continuous	10	A
I_{BM}	Base Current- Pulse us	15	A
P_C	Collector Power Dissipation @ T_C=25℃	200	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 10mA; I_B= 0	350			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 15A; I_B= 3A			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 15A; I_B= 3A			1.7	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 800V; I_E= 0			1	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 7V; I_C= 0			1	mA
h_{FE-1}	DC Current Gain	I_C= 1A; V_{CE}= 5V	15			
h_{FE-2}	DC Current Gain	I_C= 25A; V_{CE}= 5V	6			
C_{OB}	Output Capacitance	I_E=0; V_{CB}= 50V; f_{test}= 1MHz		170		pF
f_T	Current-Gain—Bandwidth Product	I_C= 1A; V_{CE}= 10V		6		MHz
Switching Times						
t_{on}	Turn-on Time	I_C= 15A; I_{B1}= I_{B2}= 3A; R_L= 13.3Ω; V_{CC}≈ 200V P_W=20μs; Duty Cycle≤1%		0.8		μs
t_{stg}	Storage Time			3.0		μs
t_f	Fall Time			0.5		μs