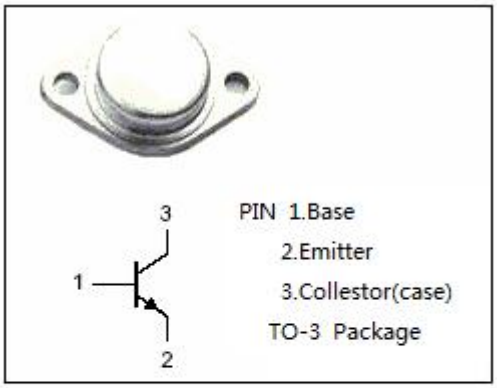
SPTECH Silicon NPN Power Transistors 2N6306/6307/6308

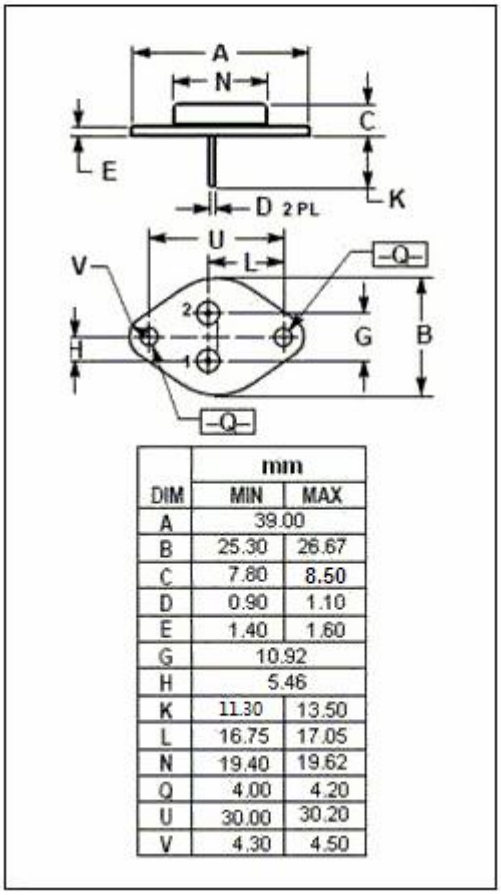
DESCRIPTION

- High Collector-Base Voltage-
  : V_{CB}= 500V(Min)- 2N6306
  = 600V(Min)- 2N6307
  = 700V(Min)- 2N6308
- Low Saturation Voltage-

APPLICATIONS

- Designed for high voltage inverters,switching regulators and line-operated amplifier applications. Especially well suited for switching power supply applications in associated consumer products.





DIM	mm MIN	MAX
A	39.00	
B	25.30	26.67
C	7.80	8.50
D	0.90	1.10
E	1.40	1.60
G	10.92	
H	5.46	
K	11.30	13.50
L	16.75	17.05
N	19.40	19.62
Q	4.00	4.20
U	30.00	30.20
V	4.30	4.50

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER		VALUE	UNIT
V_{CBO}	Collector-Base Voltage	2N6306	500	V
		2N6307	600	
		2N6308	700	
V_{CEO}	Collector-Emitter Voltage	2N6306	250	V
		2N6307	300	
		2N6308	350	
V_{EBO}	Emitter-Base Voltage		8	V
I_C	Collector Current-Continuous		8	A
I_{CM}	Collector Current-Peak		16	A
I_B	Base Current-Continuous		4	A
P_C	Collector Power Dissipation @T_C=25℃		125	W
T_J	Junction Temperature		150	℃
T_{stg}	Storage Temperature		-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	1.4	℃/W

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	2N6306	I_C= 50mA ; I_B= 0	250		V
		2N6307		300		
		2N6308		350		
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	2N6306	I_C= 3A; I_B= 0.6A		0.8	V
		2N6307			1.0	
		2N6308			1.5	
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	2N6306/6307	I_C= 8A; I_B= 2A		5.0	V
		2N6308	I_C= 8A; I_B= 2.67A		5.0	
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	2N6306/6307	I_C= 8A; I_B= 2A		2.3	V
		2N6308	I_C= 8A; I_B= 2.67A		2.5	
$V_{BE(on)}$	Base-Emitter On Voltage	2N6306/6307	I_C= 3A ; V_{CE}= 5V		1.3	V
		2N6308			1.5	
I_{CEO}	Collector Cutoff Current		V_{CE}= Rated V_{CEO}; I_B= 0		0.5	mA
I_{CEX}	Collector Cutoff Current	2N6306	V_{CE}= 500V; $V_{BE(off)}$= 1.5V V_{CE}= 450V; $V_{BE(off)}$= 1.5V,T_C=150℃		0.5 2.5	mA
		2N6307	V_{CE}= 600V; $V_{BE(off)}$= 1.5V V_{CE}= 550V; $V_{BE(off)}$= 1.5V,T_C=150℃		0.5 2.5	
		2N6308	V_{CE}= 700V; $V_{BE(off)}$= 1.5V V_{CE}= 650V; $V_{BE(off)}$= 1.5V,T_C=150℃		0.5 2.5	
I_{EBO}	Emitter Cutoff Current		V_{EB}= 8V; I_C=0		1.0	mA
h_{FE-1}	DC Current Gain	2N6306/6307	I_C= 3A ; V_{CE}= 5V	15	75	
		2N6308		12	60	
h_{FE-2}	DC Current Gain	2N6306/6307	I_C= 8A ; V_{CE}= 5V	4		
		2N6308		3		
C_{OB}	Output Capacitance		I_E= 0;V_{CB}= 10V;f_{test}= 0.1MHz		250	pF
f_T	Current-Gain—Bandwidth Product		I_C= 0.3A ; V_{CE}= 10V ;f_{test}= 1MHz	5		MHz