isc Silicon NPN Power Transistor 2N3878

DESCRIPTION

- Excellent Safe Operating Area
- Low Collector-Emitter Saturation Voltage
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation.

APPLICATIONS

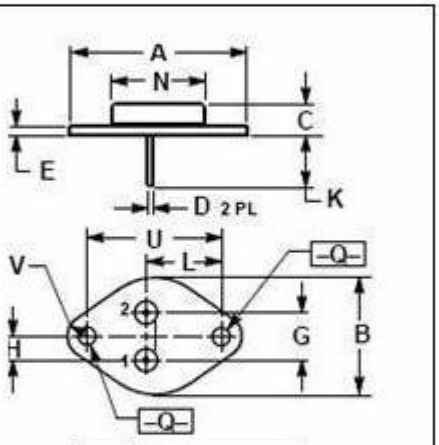
- Designed for high speed switching and linear- amplifier applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	120	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	4	A
P_C	Collector Power Dissipation@T_C=25℃	35	W
T_J	Junction Temperature	-65~200	℃
T_{stg}	Storage Temperature	-65~200	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	5	℃/W



DIM	mm MIN	MAX
A	31.40	31.80
B	17.30	17.90
C	6.70	7.10
D	0.70	0.90
E	1.40	1.80
G	5.08	
H	2.54	
K	9.80	10.50
L	14.70	14.90
N	12.40	12.70
Q	3.60	3.80
U	24.30	24.50
V	3.50	3.70

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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	I_C=200mA; I_B= 0	50		V
I_{EBO}	Emitter Cutoff Current	V_{EB}= 7V; I_C= 0		10	mA
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 4A; I_B= 0.4A		2.0	V
$V_{BE(ON)}$	Base-Emitter On Voltage	I_C=4A;V_{CE}= 2V		2.5	V
h_{FE-1}*	DC Current Gain	I_C= 0.5A; V_{CE}= 2V	40	200	
h_{FE-2}*	DC Current Gain	I_C= 4A; V_{CE}= 2V	8		
h_{FE-3}*	DC Current Gain	I_C= 4A; V_{CE}= 5V	20		
h_{FE-4}*	DC Current Gain	I_C= 0.5A; V_{CE}= 5V	50	200	

*:Pulse test:Pulse width=300us,duty cycle≤2%