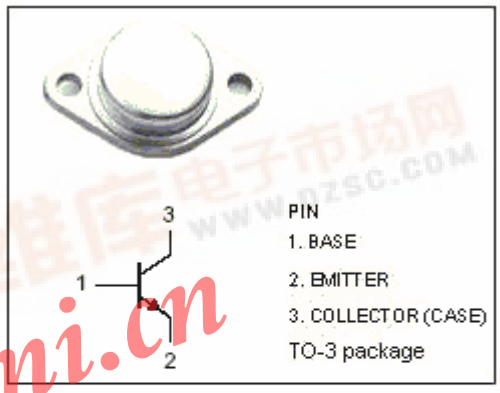
isc Silicon NPN Power Transistors 2N6338/6339/6340/6341

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$= 100V(Min)- 2N6338
  = 120V(Min)- 2N6339
  = 140V(Min)- 2N6340
  = 160V(Min)- 2N6341
- High Switching Speed
- Low Saturation Voltage-
  : $V_{CE(sat)}$= 1.0V(Max)@ I_C= 10A

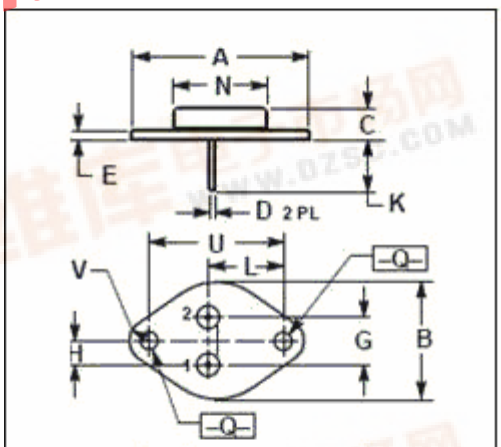


APPLICATIONS

- Designed for use in industrial-military power amplifier and switching circuit applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER		VALUE	UNIT
V_{CBO}	Collector-Base Voltage	2N6338	120	V
		2N6339	140	
		2N6340	160	
		2N6341	180	
V_{CEO}	Collector-Emitter Voltage	2N6338	100	V
		2N6339	120	
		2N6340	140	
		2N6341	150	
V_{EBO}	Emitter-Base Voltage		7	V
I_C	Collector Current-Continuous		25	A
I_{CM}	Collector Current-Peak		50	A
I_B	Base Current-Continuous		10	A
P_C	Collector Power Dissipation @T_C=25℃		200	W
T_J	Junction Temperature		200	℃
T_{stg}	Storage Temperature		-65~200	℃



DIM	mm	
	MIN	MAX
A	39.00	
B	25.30	26.67
C	7.80	8.30
D	0.90	1.10
E	1.40	1.60
G	10.92	
H	5.46	
K	11.40	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

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	0.875	℃/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	2N6338	I_C= 50mA ; I_B= 0	100		V
		2N6339		120		
		2N6340		140		
		2N6341		150		
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage		I_C= 10A; I_B= 1A		1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage		I_C= 25A; I_B= 2.5A		1.8	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage		I_C= 10A; I_B= 1A		1.8	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage		I_C= 25A; I_B= 2.5A		2.5	V
$V_{BE(on)}$	Base-Emitter On Voltage		I_C= 10A ; V_{CE}= 2V		1.8	V
I_{CEO}	Collector Cutoff Current	2N6338	V_{CE}= 50V; I_B= 0		50	μA
		2N6339	V_{CE}= 60V; I_B= 0		50	
		2N6340	V_{CE}= 70V; I_B= 0		50	
		2N6341	V_{CE}= 75V; I_B= 0		50	
I_{CBO}	Collector Cutoff Current		V_{CB}= RatedV_{CBO}; I_E= 0		10	μA
I_{CEX}	Collector Cutoff Current		V_{CE}= RatedV_{CEO};$V_{BE(off)}$= 1.5V V_{CE}= RatedV_{CEO};$V_{BE(off)}$= 1.5V,T_C=150℃		10 1.0	μA mA
I_{EBO}	Emitter Cutoff Current		V_{EB}= 6V; I_C=0		0.1	mA
h_{FE-1}	DC Current Gain		I_C= 0.5A ; V_{CE}= 2V	50		
h_{FE-2}	DC Current Gain		I_C= 10A ; V_{CE}= 2V	30	120	
h_{FE-3}	DC Current Gain		I_C= 25A ; V_{CE}= 2V	12		
f_T	Current-Gain—Bandwidth Product		I_C= 1A ; V_{CE}= 10V ;f_{test}= 10MHz	40		MHz
C_{OB}	Output Capacitance		I_E= 0 ; V_{CB}= 10V ;f_{test}= 0.1MHz		300	pF
Switching Times						
t_r	Rise Time		V_{CC}= 80V; I_C= 10A;I_{B1}= 1A, $V_{BE(off)}$= 6V		0.3	μs
t_{stg}	Storage Time		V_{CC}= 80V; I_C= 10A; I_{B1}= -I_{B2}= 1A,		1.0	μs
t_f	Fall Time				0.25	μs