

SPTECH Silicon NPN Power Transistors

2N6338/6339/6340/6341

DESCRIPTION

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

APPLICATIONS

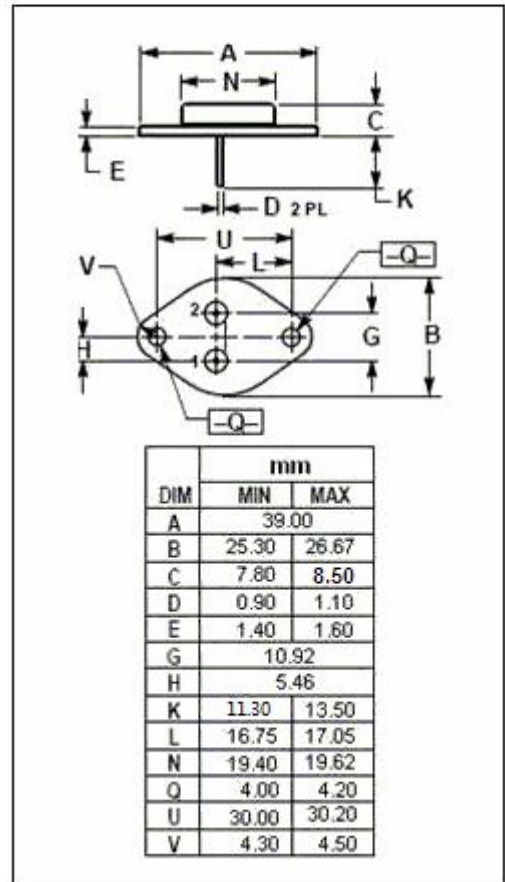
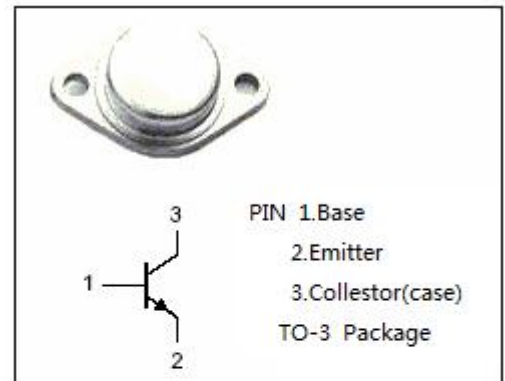
- Designed for use in industrial-military power amplifier and switching circuit applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	2N6338	120
		2N6339	140
		2N6340	160
		2N6341	180
V_{CEO}	Collector-Emitter Voltage	2N6338	100
		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 @ $T_C = 25^\circ\text{C}$	200	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	0.875	$^\circ\text{C/W}$



ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	2N6338	$I_C=50\text{mA}; I_B=0$	100		V
		2N6339		120		
		2N6340		140		
		2N6341		150		
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage		$I_C=10\text{A}; I_B=1\text{A}$		1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage		$I_C=25\text{A}; I_B=2.5\text{A}$		1.8	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage		$I_C=10\text{A}; I_B=1\text{A}$		1.8	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage		$I_C=25\text{A}; I_B=2.5\text{A}$		2.5	V
$V_{BE(on)}$	Base-Emitter On Voltage		$I_C=10\text{A}; V_{CE}=2\text{V}$		1.8	V
I_{CEO}	Collector Cutoff Current	2N6338	$V_{CE}=50\text{V}; I_B=0$		50	μA
		2N6339	$V_{CE}=60\text{V}; I_B=0$		50	
		2N6340	$V_{CE}=70\text{V}; I_B=0$		50	
		2N6341	$V_{CE}=75\text{V}; I_B=0$		50	
I_{CBO}	Collector Cutoff Current		$V_{CB}=\text{Rated } V_{CBO}; I_E=0$		10	μA
I_{EBO}	Emitter Cutoff Current		$V_{EB}=6\text{V}; I_C=0$		0.1	mA
h_{FE-1}	DC Current Gain		$I_C=0.5\text{A}; V_{CE}=2\text{V}$	50		
h_{FE-2}	DC Current Gain		$I_C=10\text{A}; V_{CE}=2\text{V}$	30	120	
h_{FE-3}	DC Current Gain		$I_C=25\text{A}; V_{CE}=2\text{V}$	12		
f_T	Current-Gain—Bandwidth Product		$I_C=1\text{A}; V_{CE}=10\text{V}; f_{\text{test}}=10\text{MHz}$	40		MHz
C_{OB}	Output Capacitance		$I_E=0; V_{CB}=10\text{V}; f_{\text{test}}=0.1\text{MHz}$		300	pF