

isc Silicon NPN Power Transistor

MJL3281A

DESCRIPTION

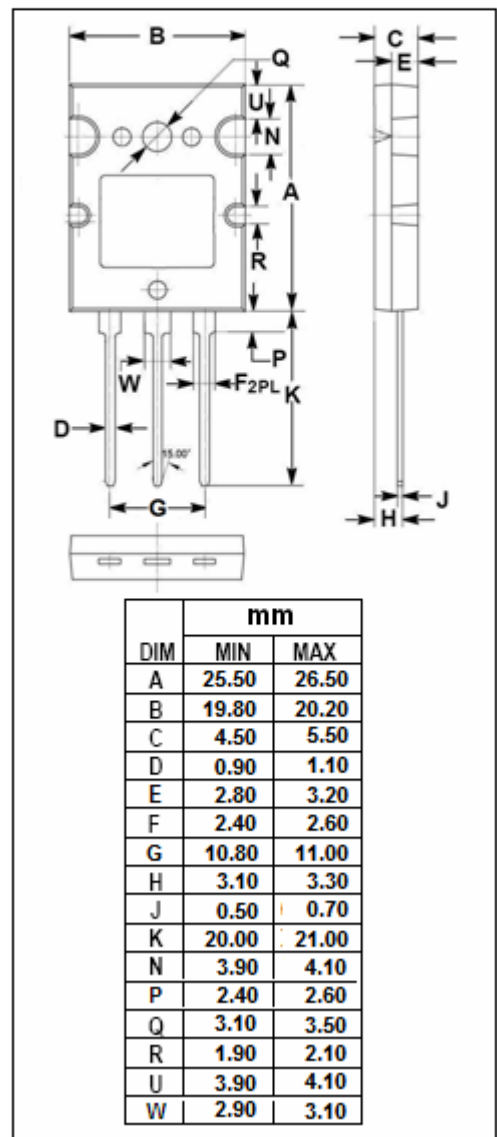
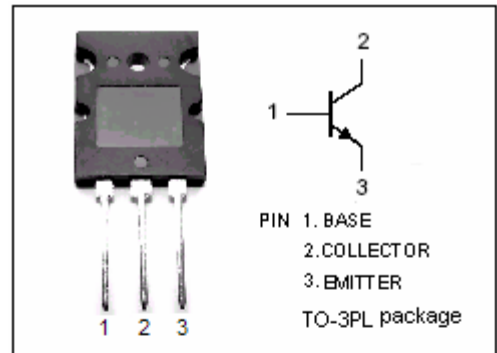
- Low Harmonic Distortion
- High Safe Operation Area — 1 A/100 V @ 1 sec
- High f_T — 30 MHz (TYP)
- Complement to Type MJL1302A

APPLICATIONS

- Designed for high power audio, disk head positioners and other linear applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	200	V
V_{CEO}	Collector-Emitter Voltage	200	V
V_{EBO}	Emitter-Base Voltage	7	V
V_{CEX}	Collector-Emitter Voltage-1.5V	200	V
I_C	Collector Current-Continuous	15	A
I_{CM}	Collector Current-Pulse	25	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 Range	-65~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=100\text{mA}; I_B=0$	200			V
$V_{(BR)EBO}$	Emitter-Base Voltage	$I_E=100\text{ }\mu\text{A}, I_C=0$	7			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=1\text{A}$			3.0	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=200\text{V}; I_E=0$			50	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			5	μA
h_{FE-1}	DC Current Gain	$I_C=100\text{ mA}, V_{CE}=5\text{ V}$	60		175	
h_{FE-2}	DC Current Gain	$I_C=1\text{ A}, V_{CE}=5\text{ V}$	60		175	
h_{FE-3}	DC Current Gain	$I_C=3\text{ A}, V_{CE}=5\text{ V}$	60		175	
h_{FE-4}	DC Current Gain	$I_C=5\text{ A}, V_{CE}=5\text{ V}$	60		175	
h_{FE-5}	DC Current Gain	$I_C=7\text{ A}, V_{CE}=5\text{ V}$	60		175	
h_{FE-6}	DC Current Gain	$I_C=8\text{ A}, V_{CE}=5\text{ V}$	45			
h_{FE-7}	DC Current Gain	$I_C=15\text{ A}, V_{CE}=5\text{ V}$	12			
$I_{S/b}$	Second Breakdown Collector with Base Forward Biased	$V_{CE}=50\text{ Vdc}, t=1\text{ s}$ $V_{CE}=100\text{ Vdc}, t=1\text{ s}$	4 1			A
f_T	Current-Gain — Bandwidth Product	$I_C=1\text{Adc}, V_{CE}=5\text{Vdc},$ $f_{test}=1\text{ MHz}$		30		MHz
C_{ob}	Output Capacitance	$V_{CB}=10\text{Vdc}, I_E=0,$ $f_{test}=1\text{ MHz}$			600	pF

(1) Pulse Test: Pulse Width = 300 μs , Duty Cycle 3 2%.