

isc Silicon PNP Power Transistor

MJL1302A

DESCRIPTION

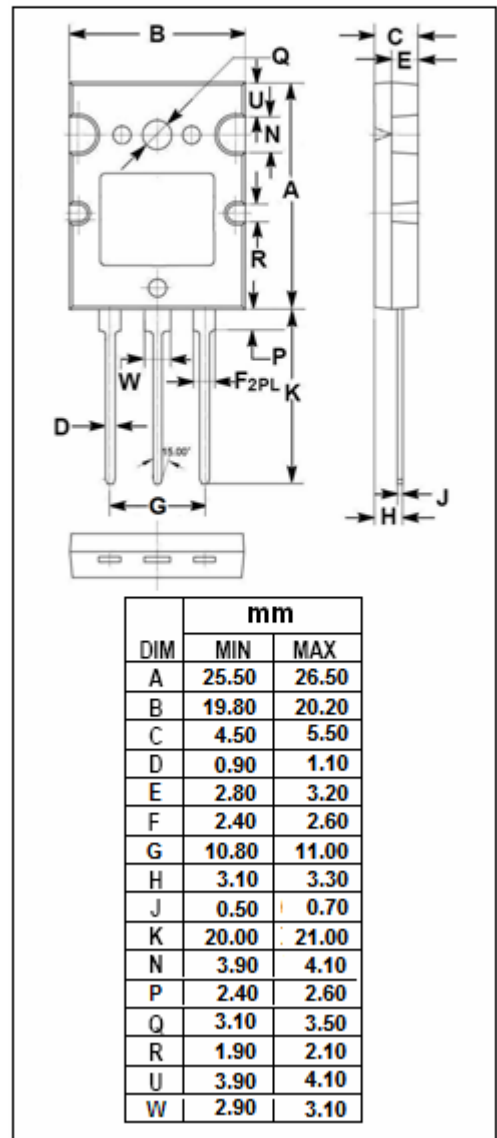
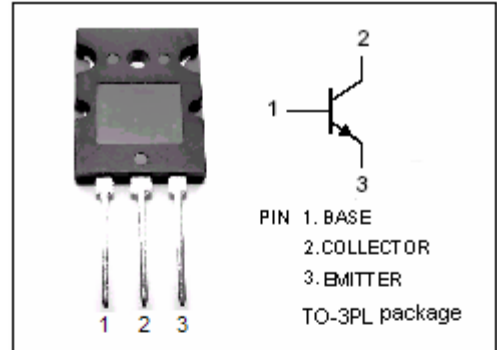
- Low Harmonic Distortion
- High Safe Operation Area — 1 A/100 V @ 1 sec
- High  $f_T$  — 30 MHz (TYP)
- Complement to Type MJL3281A

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	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			5	$\mu\text{A}$
$h_{FE-1}$	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  $\mu\text{s}$ , Duty Cycle 3 2%.