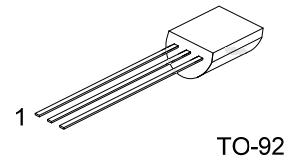


**MJE13001-XS**

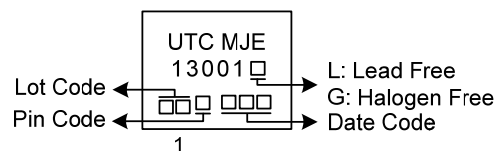
Preliminary

NPN SILICON TRANSISTOR**NPN SILICON POWER TRANSISTOR****■ FEATURES*** Collector-base voltage: $V_{(BR)CBO}=600V$ * Collector current: $I_C=0.2A$ **■ ORDERING INFORMATION**

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MJE13001L-x-T92-A-B	MJE13001G-x-T92-A-B	TO-92	E	C	B	Tape Box
MJE13001L-x-T92-A-K	MJE13001G-x-T92-A-K	TO-92	E	C	B	Bulk
MJE13001L-x-T92-F-B	MJE13001G-x-T92-F-B	TO-92	B	C	E	Tape Box
MJE13001L-x-T92-F-K	MJE13001G-x-T92-F-K	TO-92	B	C	E	Bulk

Note: Pin Assignment: C: Collector B: Base E: Emitter

MJE13001G-T92-A-B (1) Packing Type (2) Pin Assignment (3) Package Type (4) Green Package	(1) B: Tape Box, K: Bulk (2) refer to Pin Assignment (3) T92: TO-92 (4) G: Halogen Free and Lead Free, L: Lead Free
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■ MARKING

■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Emitter Voltage	V_{CEO}	400	V
Collector-Base Voltage	V_{CBO}	600	V
Emitter Base Voltage	V_{EBO}	7	V
Collector Current	I_C	200	mA
Collector Power Dissipation	P_C	750	mW
Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-55 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=100\mu\text{A}$, $I_E=0$	600			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=1\text{mA}$, $I_B=0$	400			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=100\mu\text{A}$, $I_C=0$	7			V
Collector Cutoff Cut-Off Current	I_{CBO}	$V_{CB}=600\text{V}$, $I_E=0\text{A}$			100	μA
Collector Emitter Cut-Off Current	I_{CEO}	$V_{CE}=400\text{V}$, $I_B=0$			200	μA
Emitter Cutoff Cut-Off Current	I_{EBO}	$V_{EB}=7\text{V}$, $I_C=0\text{A}$			100	μA
ON CHARACTERISTICS						
DC Current Gain	h_{FE}	$V_{CE}=20\text{V}$, $I_C=20\text{mA}$	15		30	
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=50\text{mA}$, $I_B=10\text{mA}$			0.5	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=50\text{mA}$, $I_B=10\text{mA}$			1.2	V
SMALL-SIGNAL CHARACTERISTICS						
Current Gain Bandwidth Product	f_T	$I_C=20\text{mA}$, $V_{CE}=20\text{V}$, $f=1\text{MHz}$	5			MHz
Resistive Load						
Storage Time	t_S	$I_C=50\text{mA}$, $I_{B1}=-I_{B2}=5\text{mA}$,			2	μs
Fall Time	t_F	$V_{CC}=45\text{V}$			0.3	μs

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