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UTC MJE13001

NPN EPITAXIAL SILICON TRANSISTOR

**FEATURES**

- \* Collector-Base Voltage:  $V(BR)_{CBO}=600V$
- \* Collector Current:  $I_C=0.2A$



1: BASE 2: COLLECTOR 3: EMITTER

**ABSOLUTE MAXIMUM RATINGS**

PARAMETER	SYMBOL	RATING	UNIT
Collector-base voltage	$V_{CBO}$	600	V
Collector-emitter voltage	$V_{CEO}$	400	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

**ELECTRICAL CHARACTERISTICS ( $T_C=25^{\circ}C$ )**

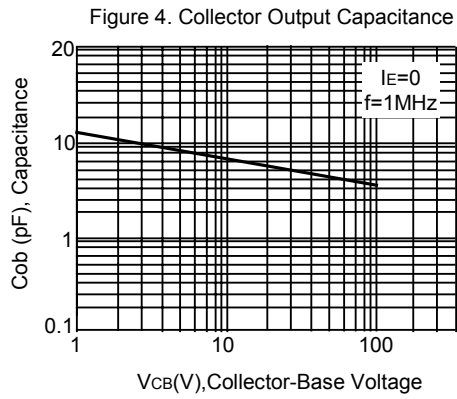
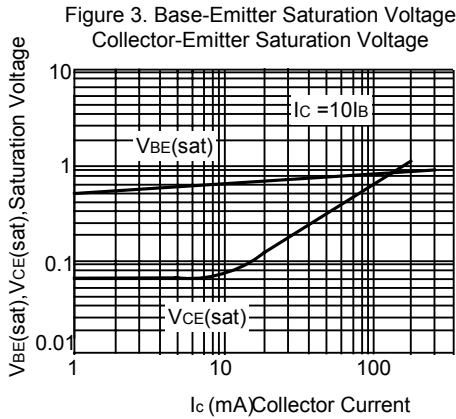
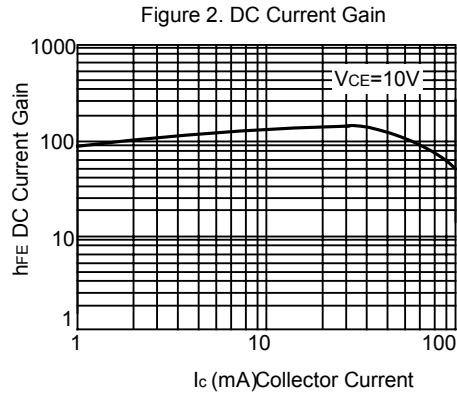
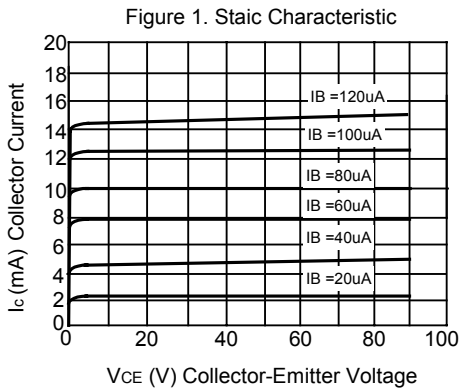
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$V(BR)_{CBO}$	$I_C=100\mu A, I_E=0$	600			V
Collector-Emitter Breakdown Voltage	$V(BR)_{CEO}$	$I_C=1mA, I_B=0$	400			V
Emitter-Base Breakdown Voltage	$V(BR)_{EBO}$	$I_E=100\mu A, I_C=0$	7			V
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=600V, I_E=0$			100	$\mu A$
Collector Cut-off Current	$I_{CEO}$	$V_{CE}=400V, I_B=0$			200	$\mu A$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=7V, I_C=0$			100	$\mu A$
DC current gain	$h_{FE(1)}$	$V_{CE}=20V, I_C=20mA$	10		70	
	$h_{FE(2)}$	$V_{CE}=10V, I_C=0.25mA$	5			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=50mA, I_B=10mA$			0.5	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=50mA, I_B=10mA$			1.2	V
Base-emitter Voltage	$V_{BE}$	$I_E=100mA$			1.1	V
Transition Frequency	$f_T$	$V_{CE}=20V, I_C=20mA, f=1MHz$	8			MHz
Fall Time	$t_F$	$I_C=50mA, I_{B1}=-I_{B2}=5mA,$			0.3	$\mu s$
Storage Time	$t_S$	$V_{CC}=45V$			1.5	$\mu s$

**UTC UNISONIC TECHNOLOGIES CO. LTD**

CLASSIFICATION OF hFE

RANK	A	B	C	D	E	F	G	H	I	J	K	L
RANGE	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70

TYPICAL CHARACTERISTICS



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