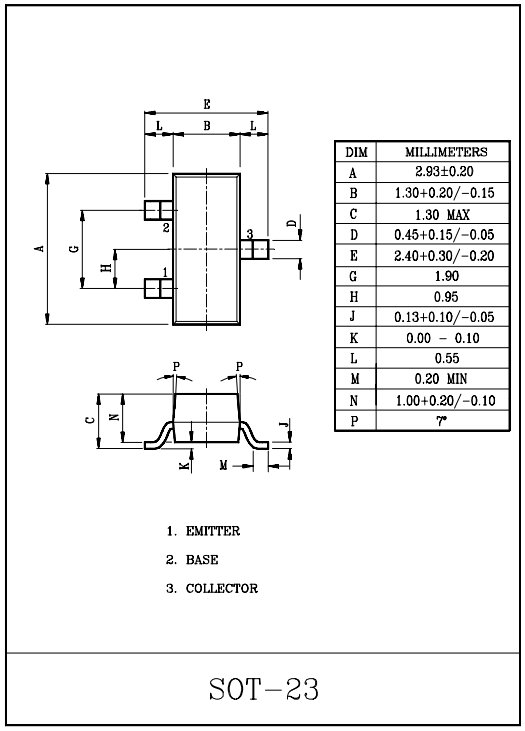
MMBTA42/43

EPITAXIAL PLANAR NPN TRANSISTOR

HIGH VOLTAGE APPLICATION.
TELEPHONE APPLICATION.



DIM	MILLIMETERS
A	2.93±0.20
B	1.30+0.20/−0.15
C	1.30 MAX
D	0.45+0.15/−0.05
E	2.40+0.30/−0.20
G	1.90
H	0.95
J	0.13+0.10/−0.05
K	0.00 − 0.10
L	0.55
M	0.20 MIN
N	1.00+0.20/−0.10
P	7°

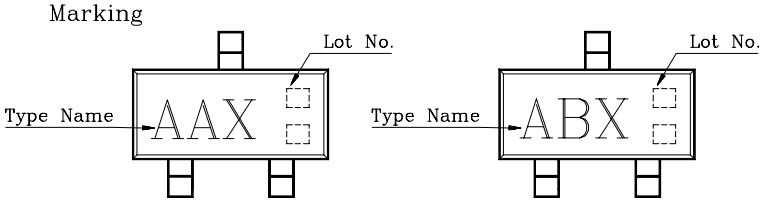
SOT−23

MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	MMBTA42	V_{CBO}	300	V
	MMBTA43		200	
Collector-Emitter Voltage	MMBTA42	V_{CEO}	300	V
	MMBTA43		200	
Emitter-Base Voltage		V_{EBO}	5.0	V
Collector Current		I_C	500	mA
Emitter Current		I_E	−500	mA
Collector Power Dissipation		P_C *	350	mW
Junction Temperature		T_j	150	℃
Storage Temperature		T_{stg}	−55∼150	℃

P_C * : Package mounted on 99.5% alumina 10×8×0.6mm.

Marking



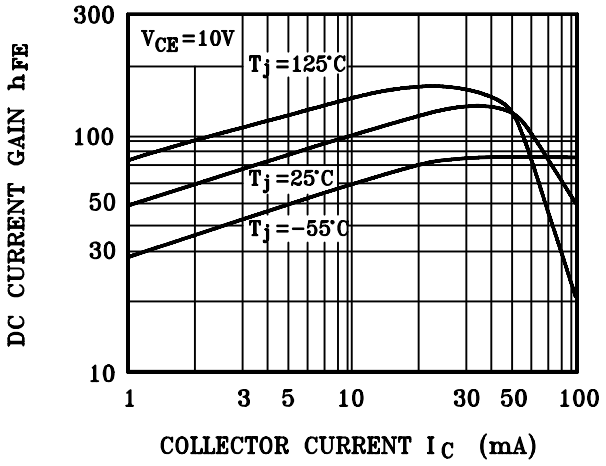
MMBTA42 MMBTA43

ELECTRICAL CHARACTERISTICS (Ta=25℃)

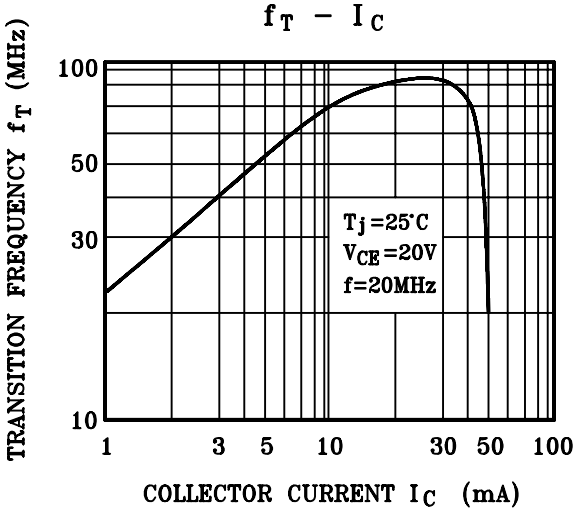
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector-Base Breakdown Voltage	MMBTA42	$V_{(BR)CBO}$	I_C=100μA, I_E=0	300	−	−	V
	MMBTA43			200	−	−	
Collector-Emitter Breakdown Voltage	MMBTA42	$V_{(BE)CEO}$	I_C=1.0mA, I_B=0	300	−	−	V
	MMBTA43			200	−	−	
DC Current Gain		* h_{FE}	I_C=1.0mA, V_{CE}=10V	40	−	−	
			I_C=10mA, V_{CE}=10V	40	−	−	
			I_C=30mA, V_{CE}=10V	40	−	−	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	I_C=20mA, I_B=2.0mA	−	−	0.5	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	I_C=20mA, I_B=2.0mA	−	−	0.9	V
Transition Frequency		f_T	V_{CE}=20V, I_C=10mA, f=100MHz	50	−	−	MHz
Collector Output Capacitance	MMBTA42	C_{ob}	V_{CB}=20V, I_E=0, f=1MHz	−	−	3.0	pF
	MMBTA43			−	−	4.0	

*Pulse Test : Pulse Width≦300μS, Duty Cycle≦2.0%

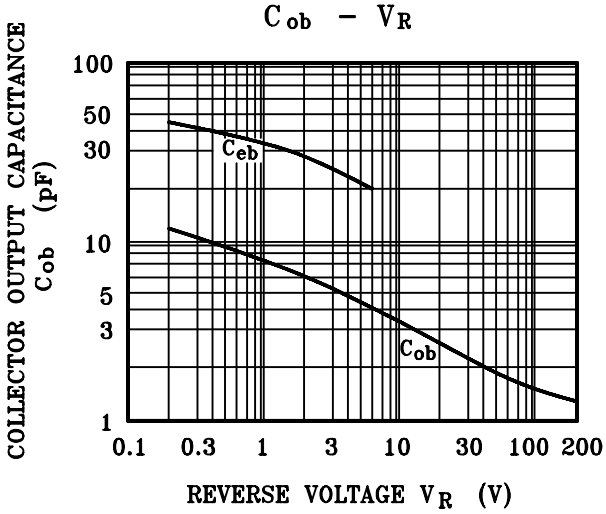
h_{FE} - I_C



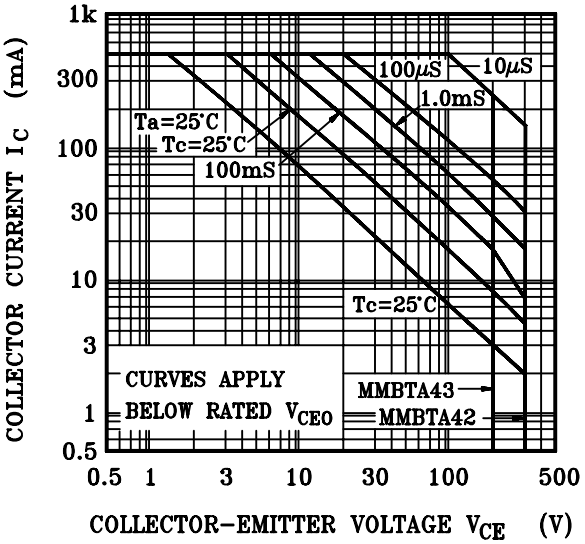
f_T - I_C



C_{ob} - V_R



I_C - V_{CE}



$V_{BE(sat)}$, $V_{CE(sat)}$ $-I_C$