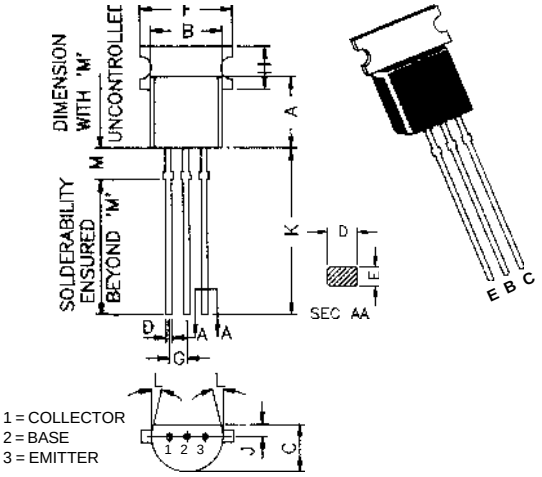
TO-237 Plastic Package

CTN635, CTN637, CTN639
CTN636, CTN638, CTN640

CTN635,637,639 NPN SILICON PLANAR EPITAXIAL TRANSISTORS
CTN636,638,640 PNP SILICON PLANAR EPITAXIAL TRANSISTORS
Complementary Transistors in Plastic Package for Driver Stage of Audio Amplifier.



DIM	MIN	MAX
A	4,32	5,33
B	4,45	5,20
C	3,18	4,19
D	0,41	0,55
E	0,35	0,50
F	–	5,40
G	1,14	1,40
H	–	2,54
K	12,70	–
L	5 DEG	
J	1,14	1,53
M	1,982	2,082

ALL DIMENSIONS ARE IN M.M.

ABSOLUTE MAXIMUM RATINGS

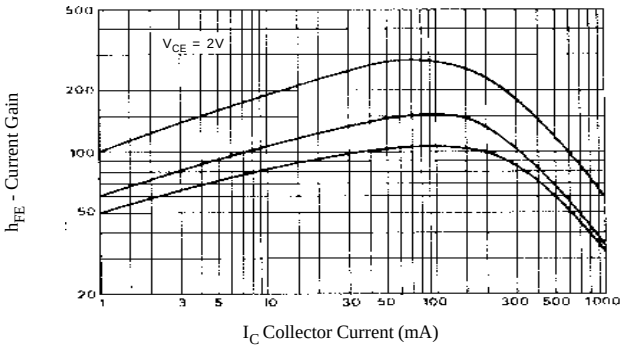
Ratings	*Symbol*	CTN635 CTN636	CTN637 CTN638	CTN639 CTN640	*Units*
Collector-Base Voltage	V_{CBO}	45	60	100	V
Collector-Emitter Voltage	V_{CEO}	45	60	80	V
Emitter-Base Voltage	V_{EBO}		5	-	V
Collector Current – Continuous	I_C	-	1	-	A
Peak	I_{CM}	-	1.5	-	A
Base Current – Continuous	I_B	-	100	-	mA
Peak	I_{BM}	-	200	-	mA
Power Dissipation @ Ta=25°C	P_D	-	750	-	mW
Derate above 25°C		-	6	-	mW/°C
Power Dissipation @ Tc=25°C	P_D	-	2.5	-	W
Derate above 25°C		-	20	-	mW/°C
Operating And Storage Junction Temperature Range	T_j, T_{stg}		–55 to +150		°C

ELECTRICAL CHARACTERISTICS *(Ta =25°C unless otherwise specified)*

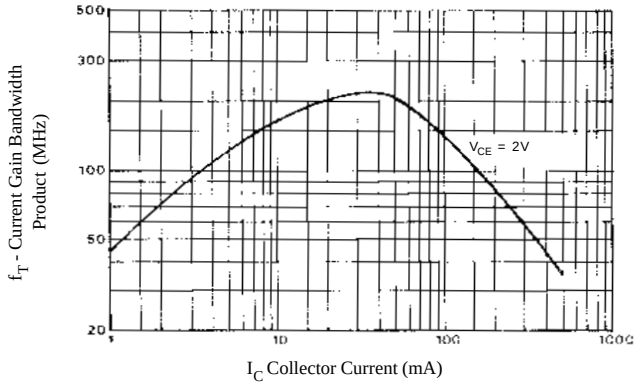
Characteristic		*Symbol*	*Min.*	*Typ.*	*Max.*	*Unit*
Collector-Emitter Voltage	**635, 636**	BV_{CEO}	*45*	-	-	*V*
I_C=10mA, I_B=0	**637, 638**		*60*	-	-	*V*
	639, 640		*80*	-	-	*V*
Collector-Base Voltage	**635, 636**	BV_{CBO}	*45*	-	-	*V*
I_C=100µA, I_E=0	**637, 638**		*60*	-	-	*V*
	639, 640		*100*	-	-	*V*
Emitter-Base Voltage						
I_E=10µA, I_C=0		BV_{EBO}	*5*	-	-	*V*
Collector Cutoff Current						
V_{CB}=30V, I_E=0		I_{CBO}	-	-	*100*	*nA*
V_{CB}=30V, I_E=0, Ta=125°C				-	*10*	*µA*
Base Emitter On Voltage						
I_C=500mA, V_{CE}=2V		$V_{BE(on)}$*	-	-	*1.0*	*V*
Collector-Emitter						
(Sat) Voltage						
I_C=500mA, I_B=50mA		$V_{CE(sat)}$*	-	-	*0.5*	*V*
D.C. Current Gain						
I_C=5mA, V_{CE}=2V	**635, 636**	h_{FE}	*25*	-	-	
I_C=150mA, V_{CE}=2V*	**637, 638**		*40*	-	*160*	
	639, 640		*40*	-	*160*	
I_C=500mA, V_{CE}=2V*			*25*	-	-	
DYNAMIC CHARACTERISTICS						
Input Capacitance						
V_{BE}=0.5V, I_C=0,	**NPN**	C_{ib}	-	*50*	-	*pF*
f=1MHz	**PNP**		-	*110*	-	*pF*
Input Capacitance						
V_{CB}=10V, I_C=0,	**NPN**	C_{ob}	-	*7*	-	*pF*
f=1MHz	**PNP**		-	*9*	-	*pF*
Transition Frequency						
I_C=10mA, V_{CE}=5V,	**NPN**	f_T	-	*130*	-	*MHz*
f=35MHz	**PNP**		-	*50*	-	*MHz*

** Pulse Test: Pulse width ≤ 300µs, Duty cycle ≤ 2%.*

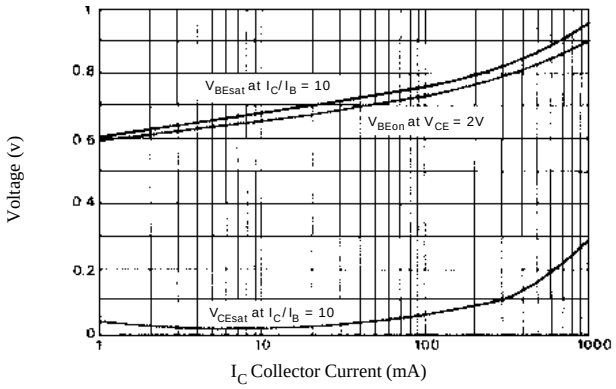
DC Current Gain



Current Gain Bandwidth Product



Saturation and On Voltages



Customer Notes

Disclaimer

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