

HIGH CURRENT APPLICATION.

Switching Applications

Solenoid Drive Applications

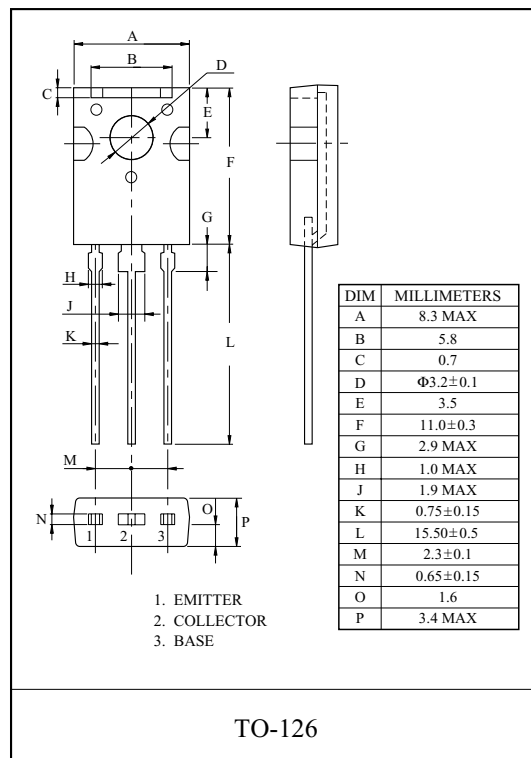
Temperature Compensated for Audio Amplifier Output Stage

FEATURES

- High DC current gain : $h_{FE} = 500(\text{min})$ ($I_C=400\text{mA}$)
- Low Collector emitter saturation voltage : $V_{CE(\text{sat})}=0.5\text{V}(\text{max})$ ($I_C=300\text{mA}$)

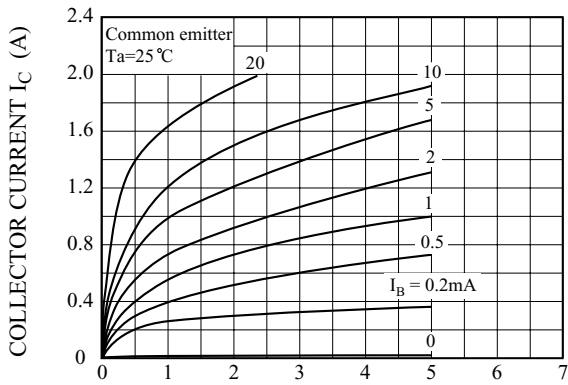
MAXIMUM RATING ($T_a=25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	7	V
Collector Current	I_C	2	A
Collector Power Dissipation	P_C	1.5	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 ~ 150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

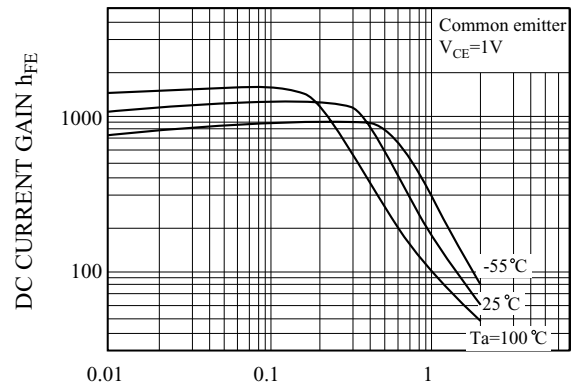
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB}=40\text{V}, I_E=0$	-	-	10	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB}=7\text{V}, I_C=0$	-	-	1	μA
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C=10\text{mA}, I_B=0$	40	-	-	V
DC Current Gain		h_{FE}	$V_{CE}=1\text{V}, I_C=400\text{mA}$	500	-	-	
Collector-Emitter Saturation Voltage		$V_{CE(\text{sat})}$	$I_C=300\text{mA}, I_B=1\text{mA}$	-	0.3	0.5	V
Base-Emitter Saturation Voltage		$V_{BE(\text{sat})}$	$I_C=300\text{mA}, I_B=1\text{mA}$	-	-	1.1	V
Transition Frequency		f_T	$V_{CE}=2\text{V}, I_C=100\text{mA}$	-	220	-	MHz
Collector Output Capacitance		C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$	-	20	-	pF
Switching Time	Turn On Time	t_{on}	$I_{B1}=-I_{B2}=-1\text{mA}, \text{DUTY CYCLE} \leq 1\%, V_{CC}=30\text{V}$	-	1.0	-	μs
	Storage Time	t_{stg}		-	3.0	-	
	Fall Time	t_f		-	1.2	-	

$I_C - V_{CE}$



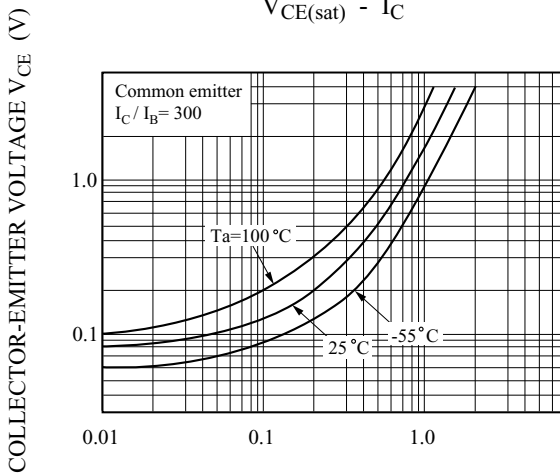
COLLECTOR-EMITTER VOLTAGE V_{CE} (V)

$h_{FE} - I_C$



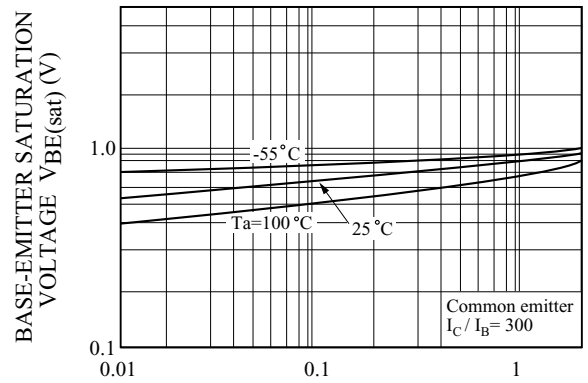
COLLECTOR CURRENT I_C (A)

$V_{CE(sat)} - I_C$



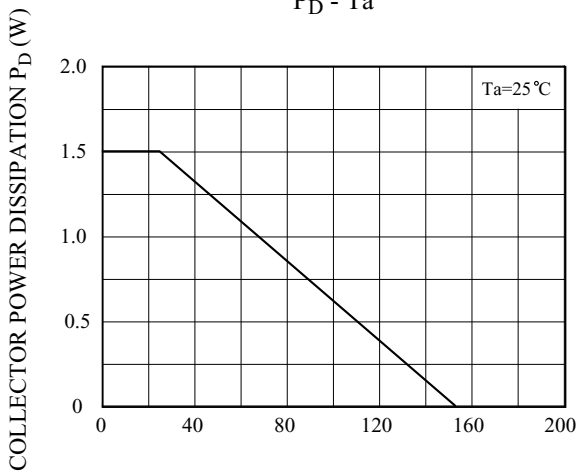
COLLECTOR CURRENT I_C (A)

$V_{BE(sat)} - I_C$



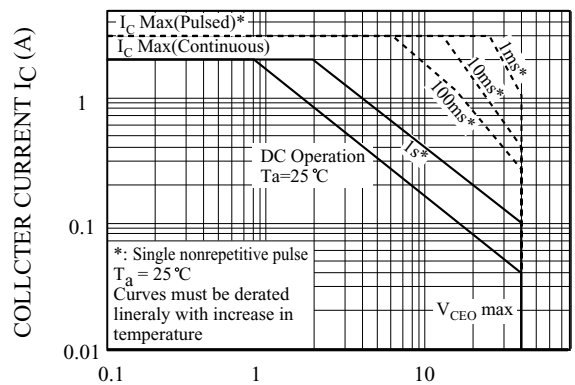
COLLECTOR CURRENT I_C (A)

$P_D - T_a$



AMBIENT TEMPERATURE T_a (°C)

Safe Operation Area



COLLECTOR-EMITTER VOLTAGE V_{CE} (V)