NEC

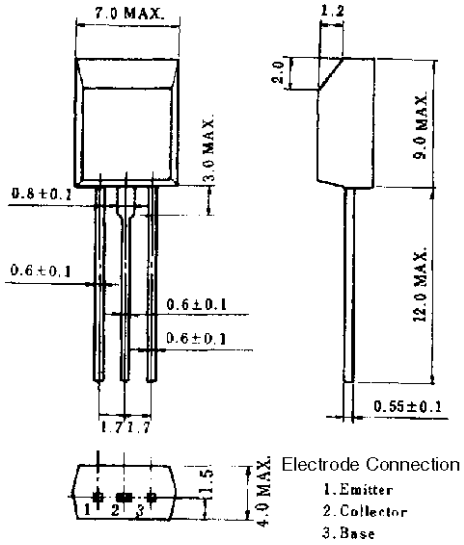
SILICON TRANSISTORS
2SC2958, 2959

NPN SILICON EPITAXIAL TRANSISTOR FOR LOW-FREQUENCY POWER AMPLIFIERS

FEATURES

- Ideal for use of high voltage current such as TV vertical deflection (drive and output), audio output, pin cushion correction
- Complementary transistor with 2SA1221 and 2SA1222
  V_{CEO} = 140 V: 2SA1221/2SC2958
  V_{CEO} = 160 V: 2SA1222/2SC2959

PACKAGE DRAWING (UNIT: mm)



ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	160	V
Collector to emitter voltage	V_{CEO}	140/160	V
Emitter to base voltage	V_{EBO}	5.0	V
Collector current (DC)	$I_{C(DC)}$	500	mA
Collector current (pulse)	$I_{C(pulse)}$*	1.0	A
Total power dissipation	P_T	1.0	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

* PW ≤ 10 ms, duty cycle ≤ 50%

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 100 V, I_E = 0			200	nA
Emitter cutoff current	I_{EBO}	V_{EB} = 5.0 V, I_C = 0			200	nA
DC current gain	h_{FE} **	V_{CE} = 2.0 V, I_C = 100 mA	100	150	400	
DC base voltage	V_{BE} **	V_{CE} = 5.0 V, I_C = 20 mA	0.6	0.64	0.7	V
Collector saturation voltage	$V_{CE(sat)}$ **	I_C = 1.0 A, I_B = 0.2 A		0.32	0.7	V
Base saturation voltage	$V_{BE(sat)}$ **	I_C = 1.0 A, I_B = 0.2 A		1.1	1.3	V
Output capacitance	C_{ob}	V_{CB} = 10 V, I_E = 0, f = 1.0 MHz		13	30	pF
Gain bandwidth product	f_T	V_{CE} = 10 V, I_E = −20 mA	30	60		MHz

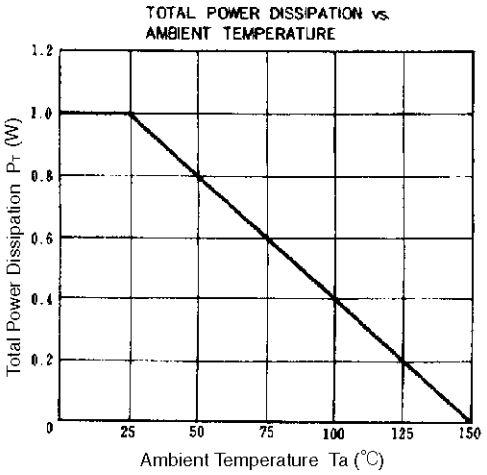
** Pulse test PW ≤ 350 μs, duty cycle ≤ 2% per pulsed

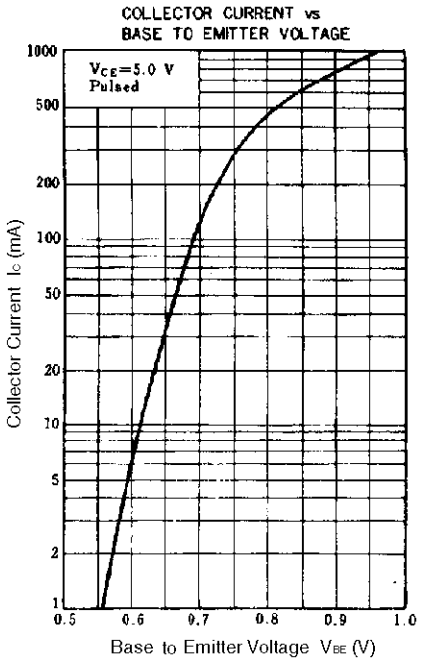
Document No. D16150EJ1V0DS00
Date Published April 2002 N CP(K)
Printed in Japan

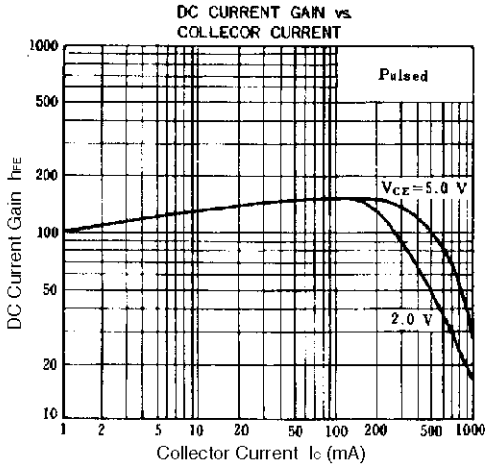
h_{FE} CLASSIFICATION

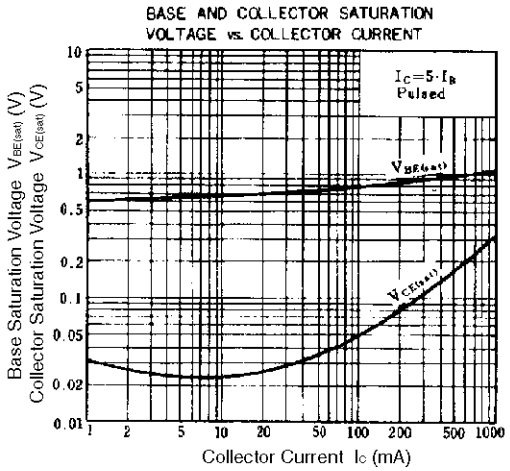
Marking	M	L	K
h_{FE}	100 to 200	160 to 320	200 to 400

TYPICAL CHARACTERISTICS (Ta = 25°C)

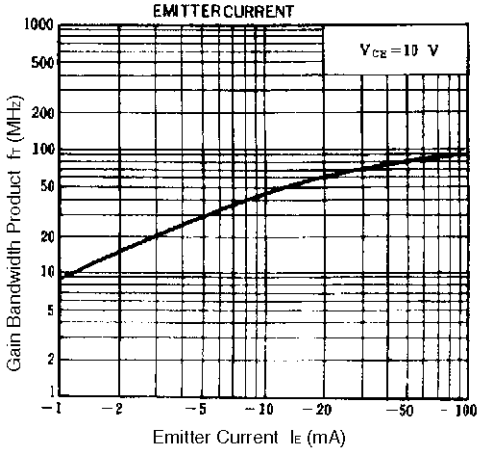




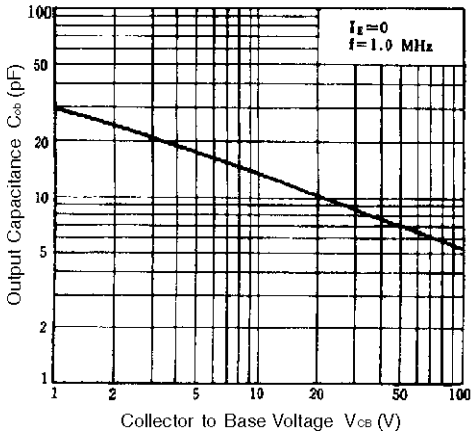




GAIN BANDWIDTH PRODUCT vs.
EMITTER CURRENT



OUTPUT CAPACITANCE vs.
COLLECTOR TO BASE VOLTAGE



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