〈SMALL-SIGNAL TRANSISTOR〉

2SC4357

FOR HIGH CURRENT DRIVE AMPLIFY APPLICATION
SILICON NPN EPITAXIAL TYPE

DESCRIPTION

2SC4357 is a silicon NPN epitaxial type transistor designed for high collector current, for high voltage.

FEATURE

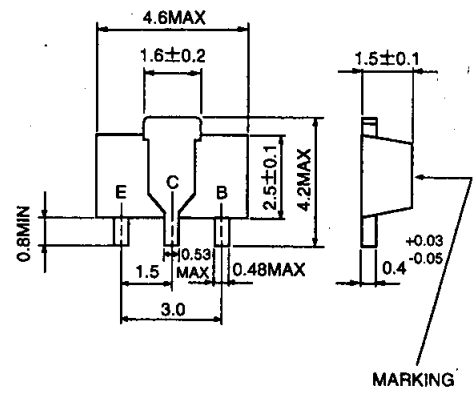
- ●High voltage V_{CEO}=60V
- ●High collector current (I_C=2A)
- ●Low collector to emitter saturation voltage
  $V_{CE(sat)}$=0.5V max(@I_C=1A, I_B=50mA)
- ●High collector dissipation P_C=500mW

APPLICATION

Audio machine, VCR, relay drive, power supply.

OUTLINE DRAWING

Unit:mm



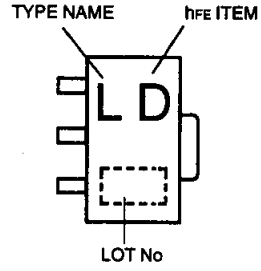
TERMINAL CONNECTOR

E : EMITTER
C : COLLECTOR
B : BASE

EIAJ : SC-62
JEDEC : –

Note)
The dimension without tolerance represent central value.

MARKING



MAXIMUM RATINGS (Ta=25℃)

Symbol	Parameter	Ratings	Unit
V_{CBO}	Collector to Base voltage	60	V
V_{EBO}	Emitter to Base voltage	6	V
V_{CEO}	Collector to Emitter voltage	60	V
I_{CM}	Peak Collector current	3	A
I_C	Collector current	2	A
P_C	Collector dissipation(Ta=25℃)	500	mW
T_j	Junction temperature	+150	℃
T_{stg}	Storage temperature	-55 to +150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{(BR)CBO}$	C to B break down voltage	I_C=10μA,I_E=0	60			V
$V_{(BR)EBO}$	E to B break down voltage	I_E=10μA,I_C=0	6			V
$V_{(BR)CEO}$	C to E break down voltage	I_C=2mA,R_{BE}=∞	60			V
I_{CBO}	Collector cut off current	V_{CB}=50V,I_E=0			0.2	μA
I_{EBO}	Emitter cut off current	V_{EB}=4V,I_C=0			0.2	μA
h_{FE} *	DC forward current gain	V_{CE}=4V,I_C=100mA	55		300	—
$V_{CE(sat)}$	C to E saturation voltage	I_C=1A,I_B=50mA		0.2	0.5	V
f_T	Gain band width product	V_{CE}=2V,I_E=-10mA		80		MHz
C_{ob}	Collector output capacitance	V_{CB}=10V,I_E=0, f=1MHz		18		pF

* : It shows h_{FE} classification in right table.

Marking	LC	LD	LE
h_{FE}	55 to 110	90 to 180	150 to 300

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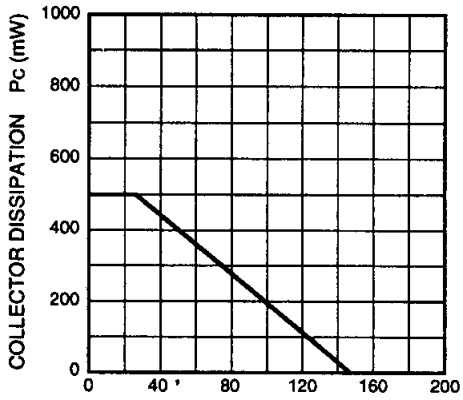
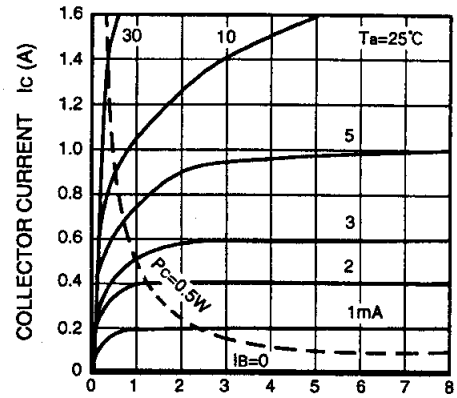
TYPICAL CHARACTERISTICS

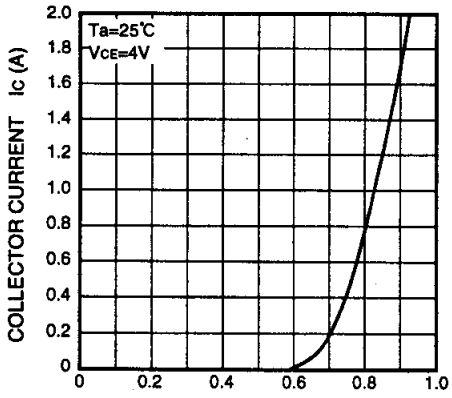
COLLECTOR DISSIPATION VS. AMBIENT TEMPERATURE



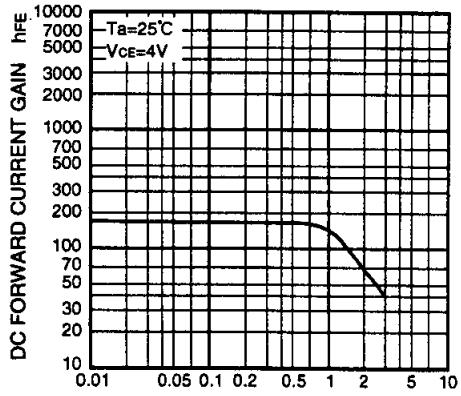
COMMON EMITTER OUTPUT



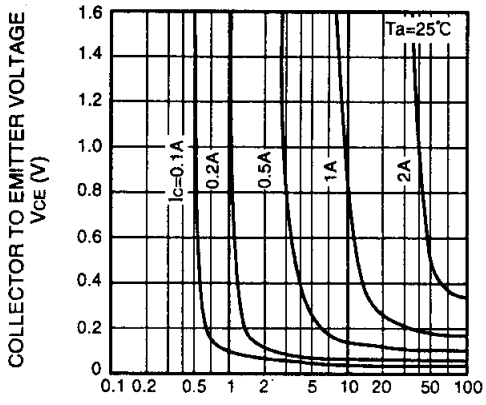
COMMON EMITTER TRANSFER



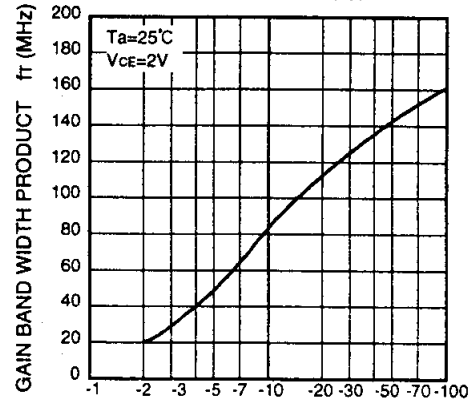
DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT



COLLECTOR TO EMITTER SATURATION VOLTAGE VS. BASE CURRENT



GAIN BAND WIDTH PRODUCT VS. EMITTER CURRENT



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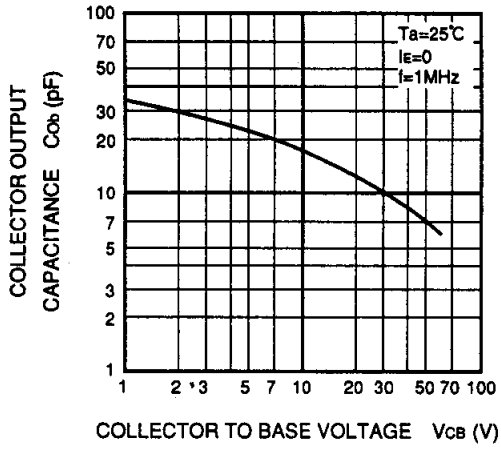
COLLECTOR OUTPUT CAPACITANCE VS. COLLECTOR TO BASE VOLTAGE



AREA OF SAFE OPERATION