

# DESCRIPTION

2SC5209 is a silicon NPN epitaxial type transistor. It designed with high voltage, high collector current and high hFE.

Complementary with 2SA1944.

# FEATURE

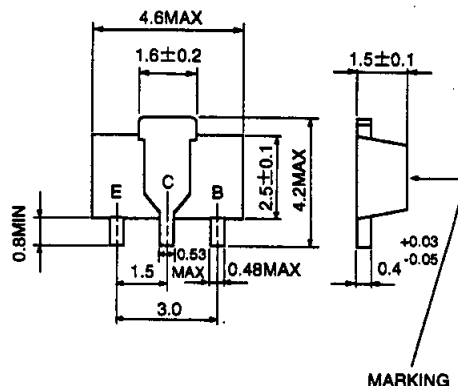
- High voltage  $V_{CE0}=50V$
- Small collector to emitter saturation voltage  
 $V_{CE(sat)}=0.15V$  typ (@ $I_C=500mA, I_E=10mA$ )
- High hFE  $h_{FE}=600$  to  $1800$
- Small package for mounting

# APPLICATION

Audio machine, VCR, relay drive of other electronic machine, power supply.

# OUTLINE DRAWING

Unit:mm



# TERMINAL CONNECTOR

E : EMITTER  
C : COLLECTOR  
B : BASE

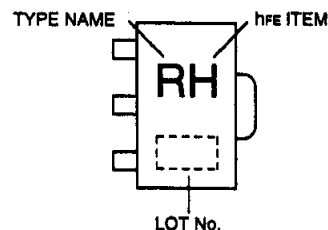
EIAJ : SC-62  
JEDEC : -

Note)  
The dimension without tolerance represent central value.

# MAXIMUM RATINGS ( $T_a=25^{\circ}C$ )

Symbol	Parameter	Ratings	Unit
$V_{CB0}$	Collector to Base voltage	50	V
$V_{EB0}$	Emitter to Base voltage	6	V
$V_{CE0}$	Collector to Emitter voltage	50	V
$I_{CM}$	Peak collector current	2	A
$I_C$	Collector current	1	A
$P_C$	Collector dissipation( $T_a=25^{\circ}C$ )	500	mW
$T_j$	Junction temperature	+150	$^{\circ}C$
$T_{stg}$	Storage temperature	-55 to +150	$^{\circ}C$

# MARKING



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

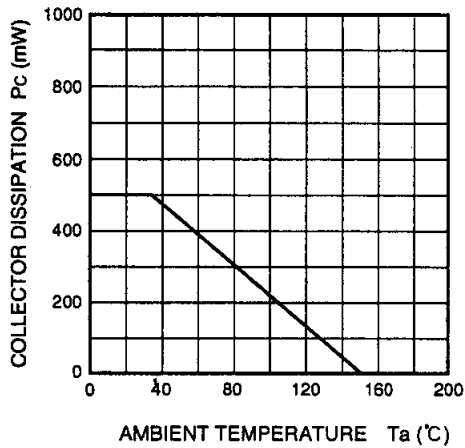
Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{(BR)CBO}$	C to B break down voltage	$I_C=10\mu A, I_E=0$	50			V
$V_{(BR)EBO}$	E to B break down voltage	$I_E=10\mu A, I_C=0$	6			V
$V_{(BR)CEO}$	C to E break down voltage	$I_C=1mA, R_{BE}=\infty$	50			V
$I_{CBO}$	Collector cut off current	$V_{CB}=40V, I_E=0$			0.1	$\mu A$
$I_{EBO}$	Emitter cut off current	$V_{EB}=2V, I_C=0$			0.1	$\mu A$
$h_{FE}^*$	DC forward current gain	$V_{CE}=6V, I_C=100mA$	600		1800	—
$V_{CE(sat)}$	C to E saturation voltage	$I_C=500mA, I_B=10mA$		0.15	0.5	V
$f_T$	Gain band width product	$V_{CE}=10V, I_E=-10mA$		130		MHz
$C_{ob}$	Collector output capacitance	$V_{CB}=10V, I_E=0, f=1MHz$		12		pF

\* : It shows hFE classification in right table.

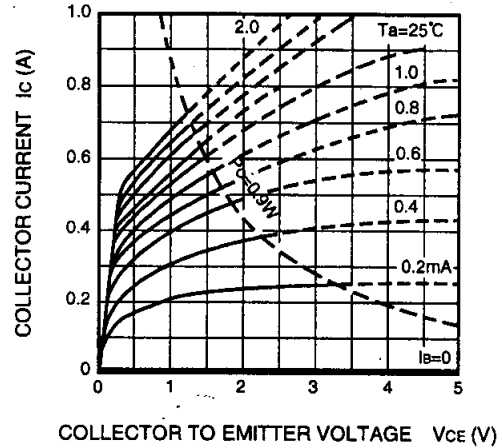
Marking	RH	RJ
hFE	600 to 1200	900 to 1800

**TYPICAL CHARACTERISTICS**

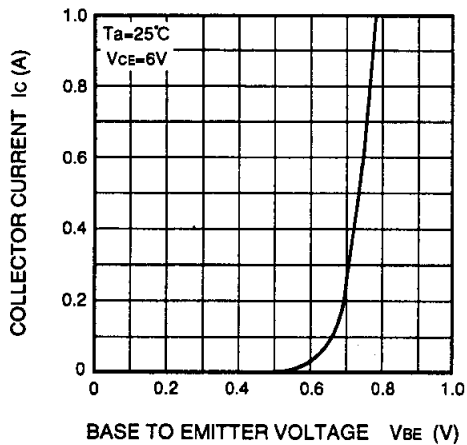
**COLLECTOR DISSIPATION VS.  
AMBIENT TEMPERATURE**



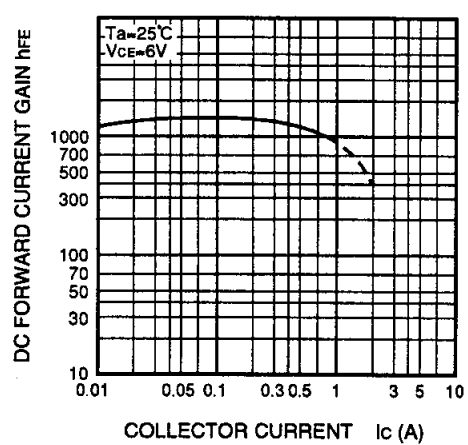
**COMMON EMITTER OUTPUT**



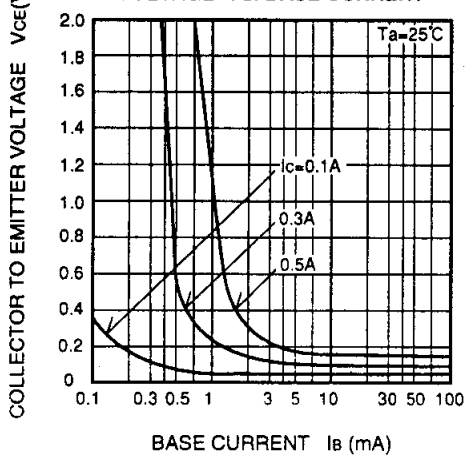
**COMMON EMITTER TRANSFER**



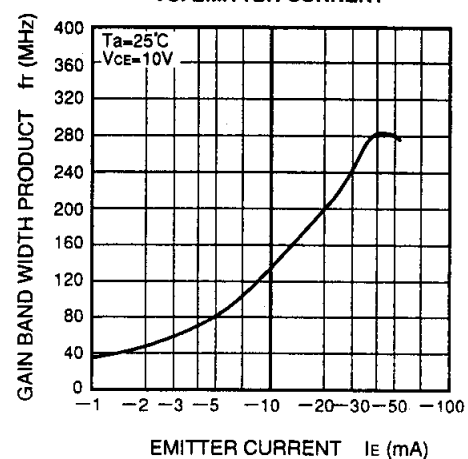
**DC FORWARD CURRENT GAIN  
VS. COLLECTOR CURRENT**



**COLLECTOR TO EMITTER SATURATION  
VOLTAGE VS. BASE CURRENT**



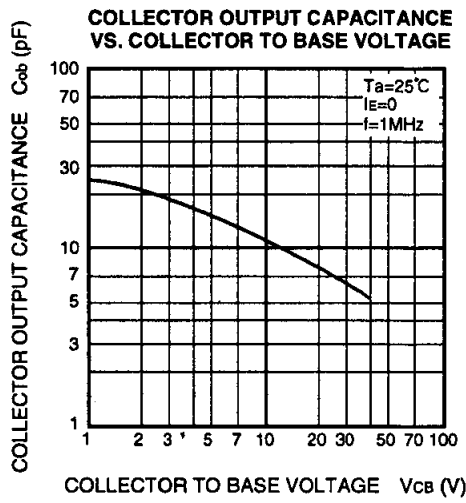
**GAIN BAND WIDTH PRODUCT  
VS. EMITTER CURRENT**



〈SMALL-SIGNAL TRANSISTOR〉

**2SC5209**

FOR RELAY DRIVE POWER SUPPLY APPLICATION  
SILICON NPN EPITAXIAL TYPE





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