

DESCRIPTION

2SC3438 is a silicon NPN epitaxial type transistor designed for power supply, 20 to 40W output low frequency power amplifier drive application. Complementary with 2SA1368.

FEATURE

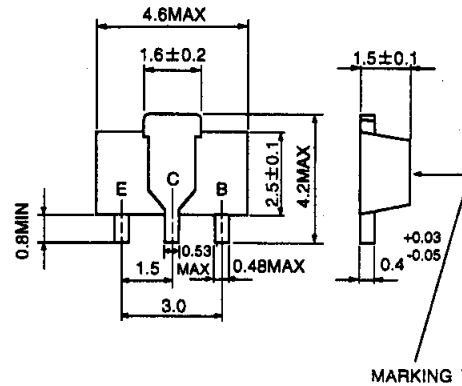
- High voltage $V_{CE0}=100V$
- High peak collector current ($I_{CM}=800mA$)
- High gain band width product $f_T=130MHz$ typ
- High collector dissipation $P_C=500mW$
- Small package for mounting

APPLICATION

Complementary drive for 20 to 40W amplifier, relay drive power supply etc.

OUTLINE DRAWING

Unit:mm



TERMINAL CONNECTOR

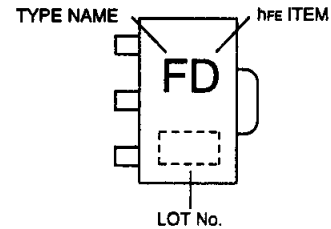
- E : EMITTER
 - C : COLLECTOR
 - B : BASE
- EIAJ : SC-62
JEDEC : -

Note)
The dimension without tolerance represent central value.

MAXIMUM RATINGS (Ta=25°C)

Symbol	Parameter	Ratings	Unit
V_{CB0}	Collector to Base voltage	100	V
V_{EB0}	Emitter to Base voltage	5	V
V_{CE0}	Collector to Emitter voltage	100	V
I_{CM}	Peak Collector current	800	mA
I_C	Collector current	500	mA
P_C	Collector dissipation(Ta=25°C)	500	mW
T_j	Junction temperature	+150	°C
T_{stg}	Storage temperature	-55 to +150	°C

MARKING



ELECTRICAL CHARACTERISTICS (Ta=25°C)

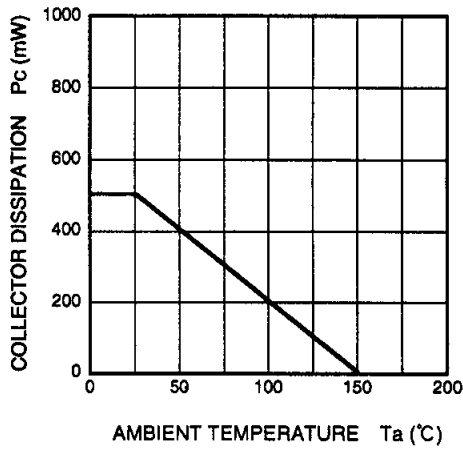
Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{(BR)CBO}$	C to B break down voltage	$I_C=10\mu A, I_E=0$	100			V
$V_{(BR)EBO}$	E to B break down voltage	$I_E=10\mu A, I_C=0$	5			V
$V_{(BR)CEO}$	C to E break down voltage	$I_C=1mA, R_{BE}=\infty$	100			V
I_{CBO}	Collector cut off current	$V_{CB}=50V, I_E=0$			0.5	μA
I_{EBO}	Emitter cut off current	$V_{EB}=2V, I_C=0$			0.5	μA
$h_{FE} *$	DC forward current gain	$V_{CE}=10V, I_C=10mA$	55		300	—
$V_{CE(sat)}$	C to E saturation voltage	$I_C=150mA, I_B=15mA$		0.15	0.5	V
f_T	Gain band width product	$V_{CE}=10V, I_E=10mA$		130		MHz
C_{ob}	Collector output capacitance	$V_{CB}=10V, I_E=0, f=1MHz$		7		pF

* : It shows hFE classification in right table.

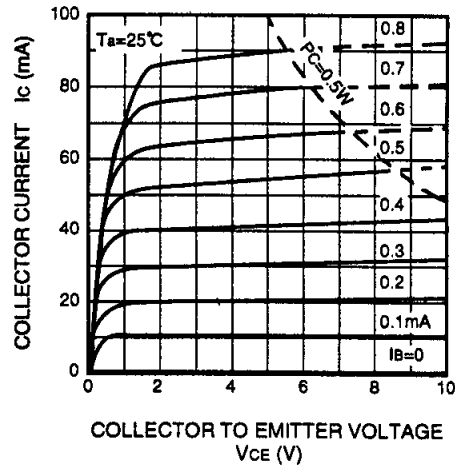
Marking	FC	FD	FE
hFE	55 to 110	90 to 180	150 to 300

TYPICAL CHARACTERISTICS

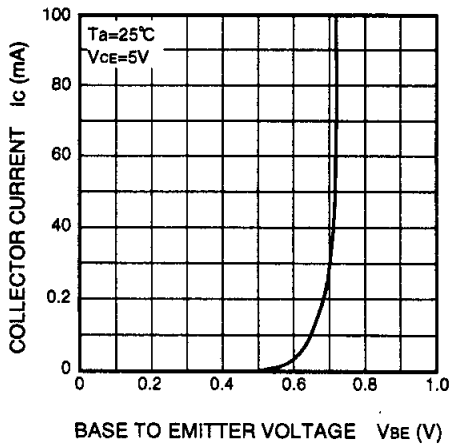
COLLECTOR DISSIPATION VS. AMBIENT TEMPERATURE



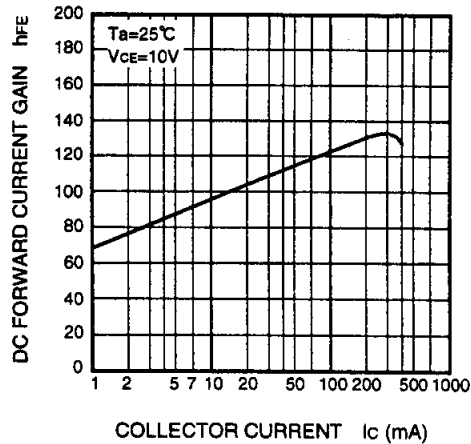
COMMON EMITTER OUTPUT



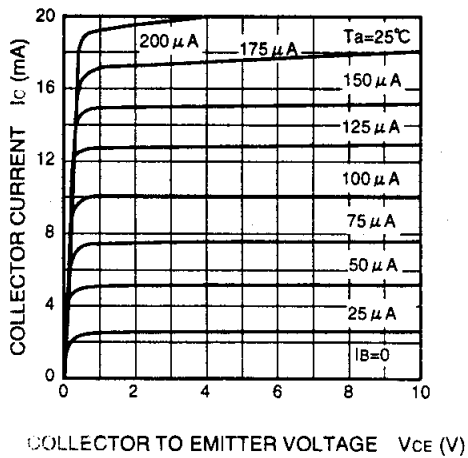
COMMON EMITTER TRANSFER



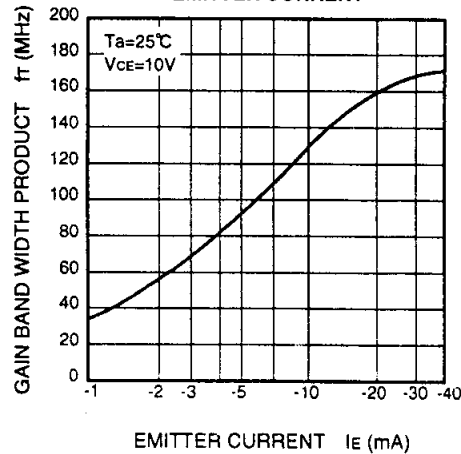
DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT



COMMON EMITTER OUTPUT



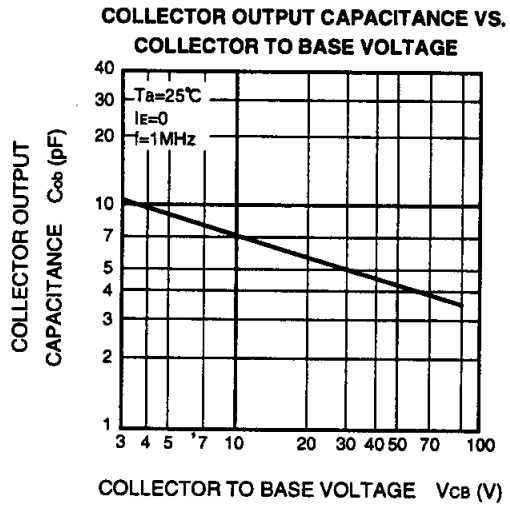
GAIN BAND WIDTH PRODUCT VS. EMITTER CURRENT



< SMALL-SIGNAL TRANSISTOR >

2SC3438

FOR HIGH VOLTAGE DRIVE APPLICATION
SILICON NPN EPITAXIAL TYPE



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