

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

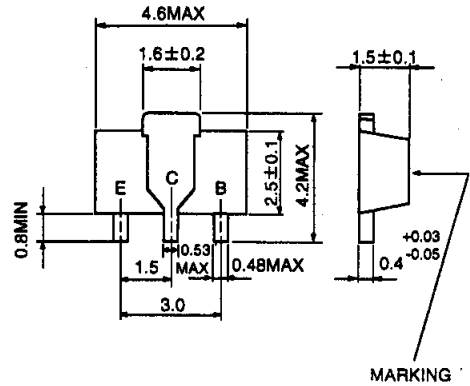
- High voltage $V_{CE0}=100V$
- High peak collector current ($I_{CM}=800mA$)
- High gain band width product $f_T=130MHz$ typ
- High collector dissipation $P_C=500mW$
- Small package for mounting

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 : -

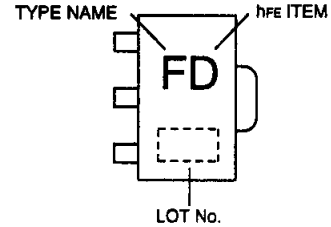
Note)

The dimension without tolerance represent central value.

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

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($T_a=25^{\circ}C$)	500	mW
T_j	Junction temperature	+150	$^{\circ}C$
T_{stg}	Storage temperature	-55 to +150	$^{\circ}C$

MARKING



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

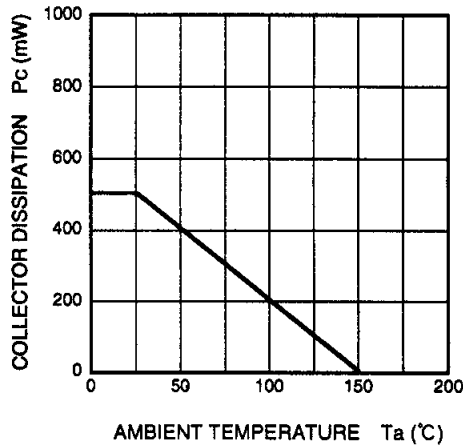
Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{(BR)CBO}$	C to B break down voltage	$I_C=10\mu A, I_E=0$	100			V
$V_{(BR)EBO}$	E to B break down voltage	$I_E=10\mu A, I_C=0$	5			V
$V_{(BR)CEO}$	C to E break down voltage	$I_C=1mA, R_{BE}=\infty$	100			V
I_{CBO}	Collector cut off current	$V_{CB}=50V, I_E=0$			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.

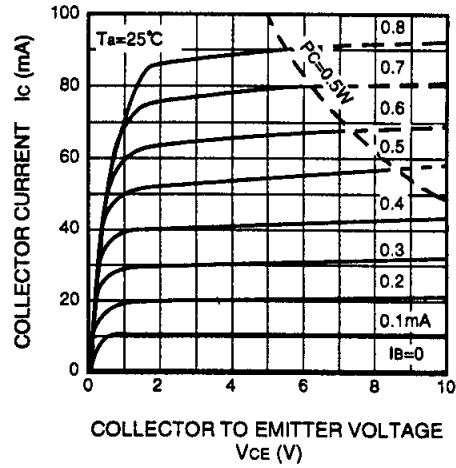
Marking	FC	FD	FE
hFE	55 to 110	90 to 180	150 to 300

TYPICAL CHARACTERISTICS

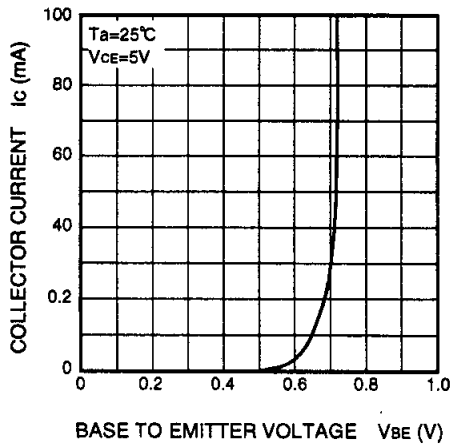
**COLLECTOR DISSIPATION VS.
AMBIENT TEMPERATURE**



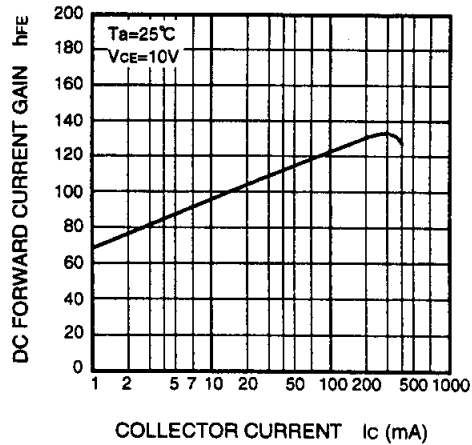
COMMON EMITTER OUTPUT



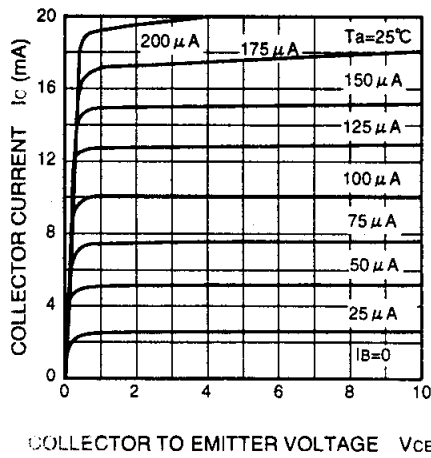
COMMON EMITTER TRANSFER



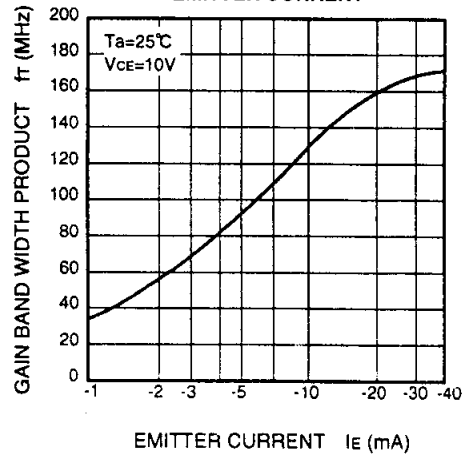
**DC FORWARD CURRENT GAIN
VS. COLLECTOR CURRENT**



COMMON EMITTER OUTPUT



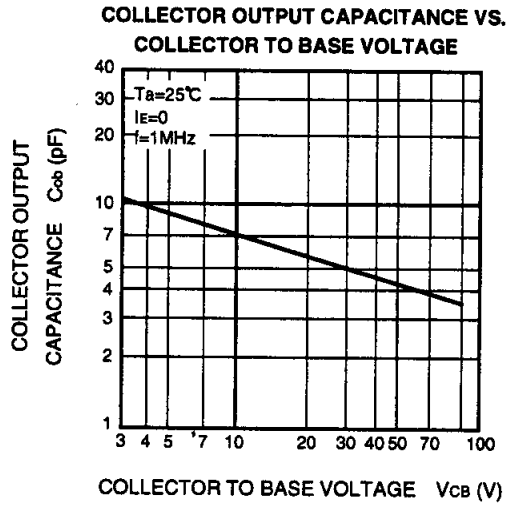
**GAIN BAND WIDTH PRODUCT VS.
EMITTER CURRENT**



〈SMALL-SIGNAL TRANSISTOR〉

2SC3438

FOR HIGH VOLTAGE DRIVE APPLICATION
SILICON NPN EPITAXIAL TYPE





<http://www.idc-com.co.jp>
6-41, TSUKUBA, ISAHAYA, NAGASAKI, 854-0065, JAPAN

Keep safety in your circuit designs !

Isahaya Electronics Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage. Remember to give consideration to safety when making your circuit designs, with appropriate measures such as (i) placement of substitutive, auxiliary circuits, (ii) use of non-flammable material or (iii) prevention against any malfunction or mishap.

Notes regarding these materials

• These materials are intended as reference to assist out customers in the selection of the Isahaya semiconductor product best suited to the customer's application, they do not convey any license under any intellectual property rights, or any other rights, belonging to Isahaya Electronics Corporation or a third party.
• Isahaya Electronics Corporation assumes no responsibility for any damage, or infringement of any third-party rights, originating in the use of any product data, diagrams, charts or circuit application examples contained in the materials.
• All information contained in these materials, including product data, diagrams and charts, represent information on products at the time of publication of these materials, and are subject to change by Isahaya Electronics Corporation without notice due to product improvements or other reasons. It is therefore recommended that customers contact Isahaya Electronics Corporation or authorized Isahaya Semiconductor product distributor for the latest product information before purchasing a product listed herein.
• The prior written approval of Isahaya Electronics Corporation is necessary to reprint or reproduce in whole or in part these materials.
• If these products or technologies are subject to the Japanese export control restrictions, they must be exported under a license from the Japanese government and cannot be imported into a country other than the approved destination. Any diversion or reexport contrary to the export control laws and regulations of Japan and/or the country of destination is prohibited.
• Please contact Isahaya Electronics Corporation or an authorized Isahaya Semiconductor product distributor for further details on these materials or the products contained therein.
