

TRIPLE DIFFUSED PLANER TYPE
HIGH POWER DARLINGTON
HIGH SPEED SWITCHING

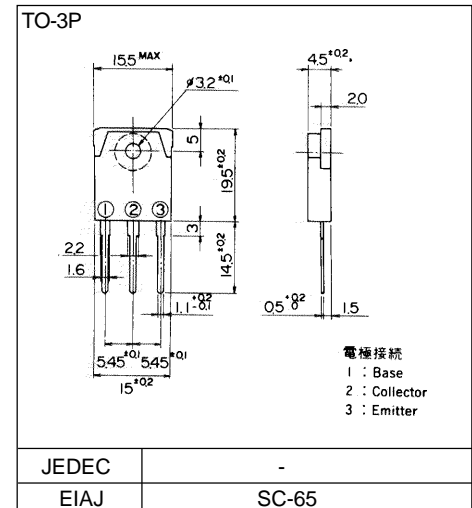
Features

- Excellent linearity h_{FE}
- High collector current
- Excellent safe operating area
- High reliability

Applications

- Audio amp
- Series regulators
- General purpose power amplifiers
(Complementary to 2SB757)

Outline Drawings



Maximum ratings and characteristics

- Absolute maximum ratings ($T_c=25^\circ\text{C}$ unless otherwise specified)

Item	Symbol	Ratings	Unit
Collector-Base voltage	V_{CB0}	40	V
Collector-Emitter voltage	V_{CE0}	40	V
Emitter-Base voltage	V_{EB0}	5	V
Collector current	I_C	15	A
Base current	I_B	5	A
Collector power dissipation	P_C	80	W
Operating junction temperature	T_j	+150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

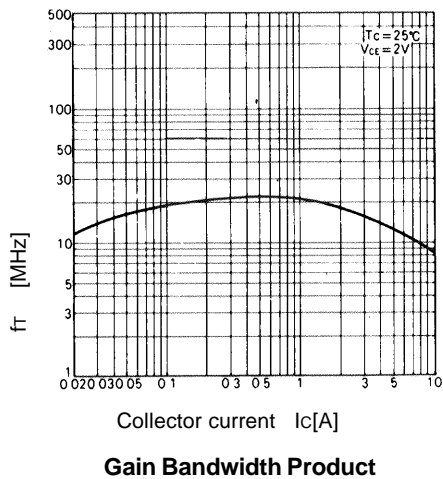
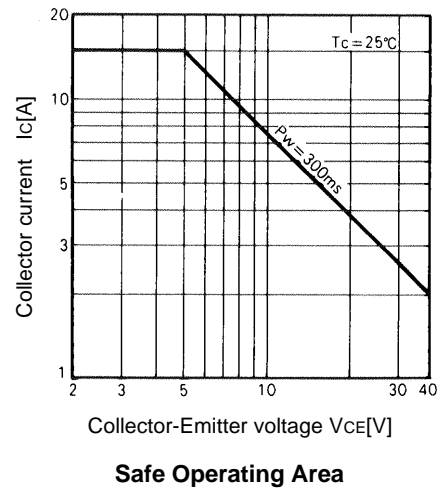
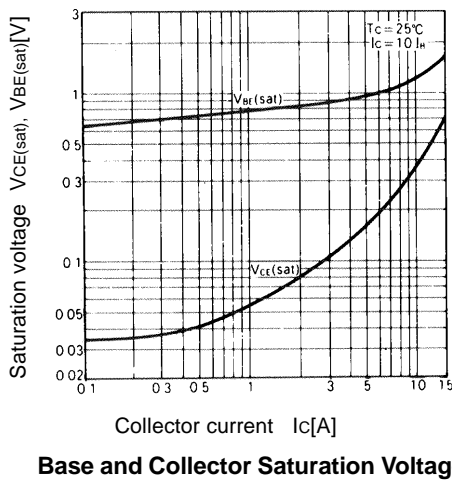
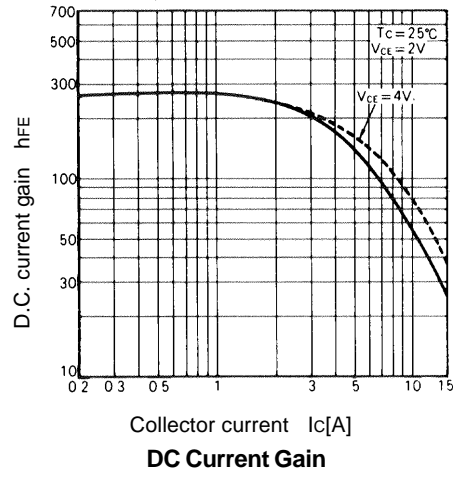
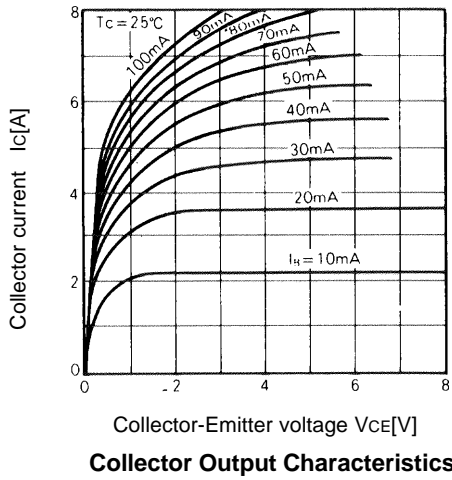
- Electrical characteristics ($T_c = 25^\circ\text{C}$ unless otherwise specified)

Item	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Collector-Base voltage	V_{CB0}	$I_{CBO} = 0.1\text{mA}$	40			V
Collector-Emitter voltage	V_{CE0}	$I_{CEO} = 10\text{mA}$	40			V
Emitter-Base voltage	V_{EB0}	$I_{EBO} = 0.1\text{mA}$	5			V
Collector-Base leakage current	I_{CBO}	$V_{CB0} = 40\text{V}$			0.01	mA
Emitter-Base leakage current	I_{EBO}	$V_{EB0} = 5\text{V}$			0.1	mA
D.C. current gain	h_{FE}	$I_C = 5\text{A}, V_{CE} = 2\text{V}$	40		240	
Collector-Emitter saturation voltage	$V_{CE(Sat)}$	$I_C = 5\text{A}, I_B = 0.5\text{A}$			0.8	V
Base-Emitter saturation voltage	$V_{BE(Sat)}$				1.8	V
*1 Switching time	t_{on}	$I_C = 15\text{A}, I_{B1} = -I_{B2} = 1.5\text{A}$ $R_L = 2\text{ohm}, P_w = 20\mu\text{s}, \text{Duty} = <2\%$			1.0	μs
	t_{stg}				2.0	μs
	t_f				1.0	μs

- Thermal characteristics

Item	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Thermal resistance	$R_{th(j-c)}$	Junction to case			1.56	$^\circ\text{C/W}$

Characteristics



*1 Switching Time Test Circuit

