2SD1641

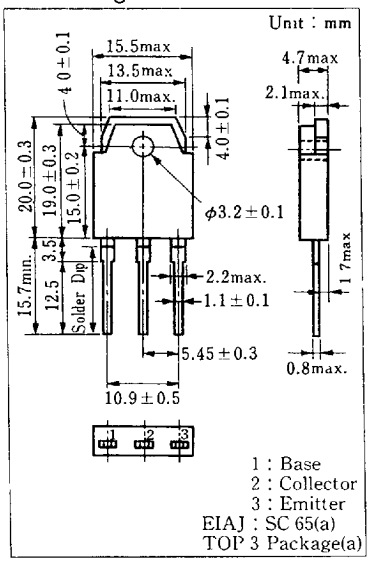
Silicon PNP Triple-Diffused Planar Type

High DC Current Gain (h_{FE}), High Power Amplifier
TV Power Source Output

■ Features

- Wide area of safety operation (ASO)
- Protective avalanche diode built-in
- High DC current gain (h_{FE})
- Good linearity of DC current gain (h_{FE})

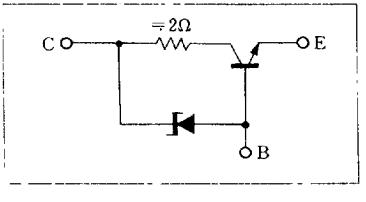
■ Package Dimensions



■ Absolute Maximum Ratings (Tc=25°C)

Item		Symbol	Value	Unit
Collector-base voltage		V_{CBO}	55^{-15}_{-10}	V
Collector-emitter voltage		V_{CEO}	55^{+15}_{-10}	V
Emitter-base voltage		V_{EBO}	5	V
Peak collector current		I_{CP}	20	A
Collector current		I_C	4	A
Collector power dissipation	Tc=25 °C	P_C	80	W
	Ta=25 °C		2.5	
Junction temperature		T_j	150	°C
Storage temperature		T_{stg}	−55 ~ +150	°C

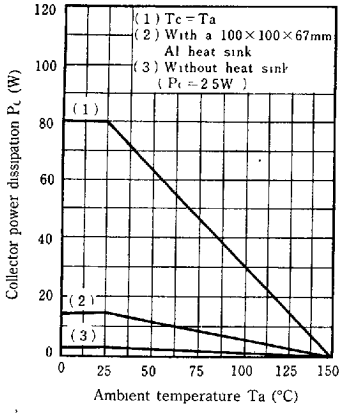
■ Inner Circuit



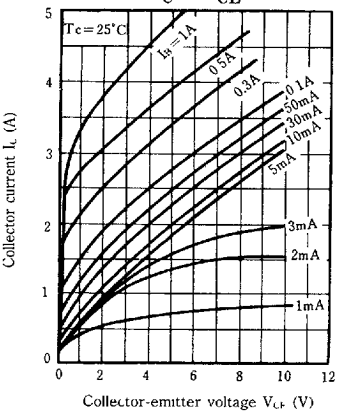
■ Electrical Characteristics (Tc=25°C)

Item	Symbol	Condition	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB}=−30 V, I_E=0			100	μA
Emitter cutoff current	I_{EBO}	V_{EB}=5 V, I_C=0			10	μA
Collector-base voltage	$V_{(BR)CBO}$	I_C=10 mA, I_E=0	45		70	V
Collector-emitter voltage	$V_{(BR)CEO}$	I_C=100 mA, I_B=0	45		70	V
DC current gain	h_{FE}	V_{CE}=5 V, I_C=0.5 A	500		2500	
Collector-emitter saturation voltage	$V_{CE(sat)1}$	I_C=0.5 A, I_B=2 mA			2	V
Base-emitter saturation voltage	$V_{CE(sat)2}$	I_C=1 A, I_B=20 mA			3	V
Base voltage	V_{BE}	V_{CE}=5V, I_C=0.5A			0.8	V
Transition frequency	f_T	V_{CE}=10V, I_C=0.5A, f=10MHz		45		MHz

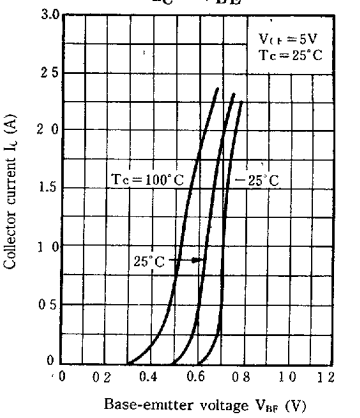
$P_C - Ta$



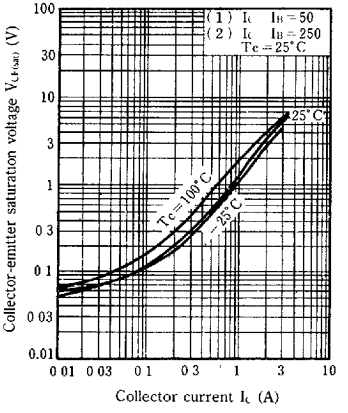
$I_C - V_{CE}$



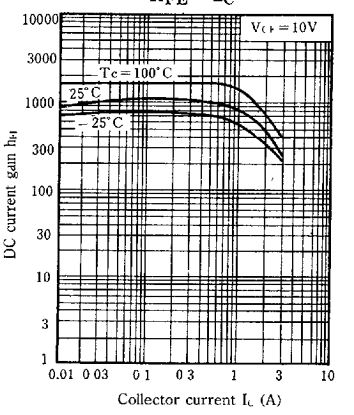
$I_C - V_{BE}$



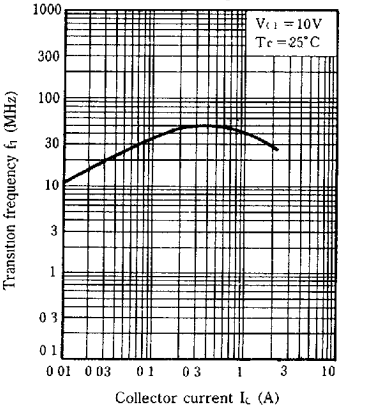
$V_{CE(sat)} - I_C$



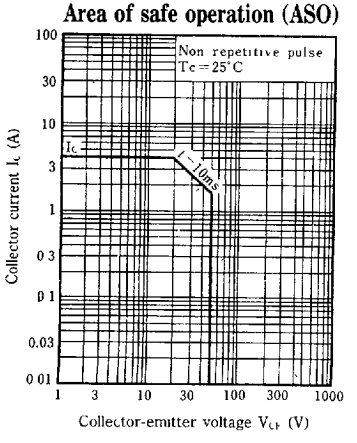
$h_{FE} - I_C$



$f_T - I_C$



Area of safe operation (ASO)



$R_{th(t)} - t$