PU4314

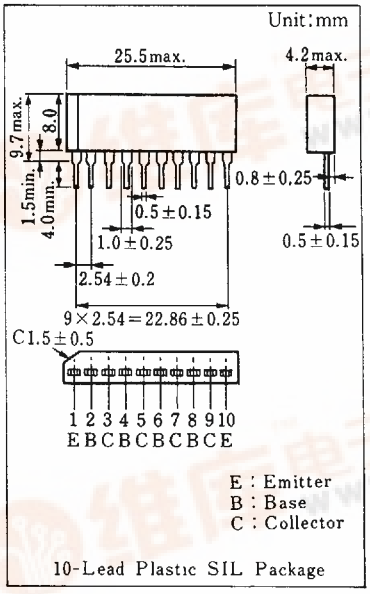
Silicon NPN/PNP Epitaxial Planar Type

Power Amplifier, Switching

■ Features

- Low collector-emitter saturation voltage ($V_{CE(sat)}$)
- Good linearity of DC current gain (h_{FE})
- High speed switching
- 2 NPN elements + PNP elements

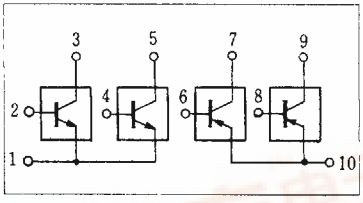
■ Package Dimensions



■ Absolute Maximum Ratings (Tc=25°C)

Item	Symbol	Value	Unit
Collector-base voltage	V_{CBO}	±40	V
Collector-emitter voltage	V_{CEO}	±20	V
Emitter-base voltage	V_{EBO}	±5	V
Peak collector current	I_{CP}	±12	A
Collector current	I_C	±7	A
Power dissipation	P_D	15	W
Junction temperature	T_j	150	℃
Storage temperature	T_{stg}	−55～+150	℃

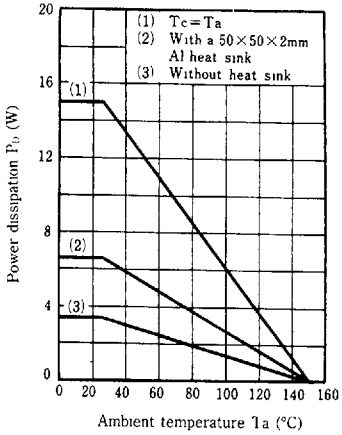
■ Inner Circuit



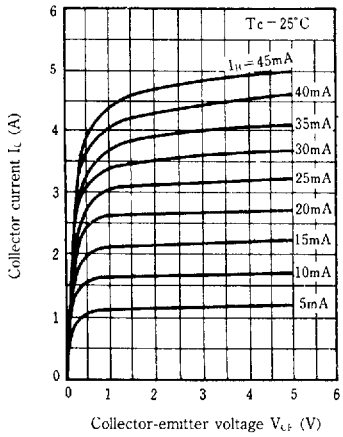
■ Electrical Characteristics (Tc=25°C)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	V_{CB}=±40V, I_E=0			±50	μA
Emitter cutoff current	I_{EBO}	V_{EB}=±5V, I_C=0			±50	μA
Collector-emitter voltage	V_{CEO}	I_C=±10mA, I_B=0	±20			V
DC current gain	h_{FE1}	V_{CE}=±2V, I_C=±0.1A	45			
	h_{FE2}	V_{CE}=±2V, I_C=±2A	60		260	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=±5A, I_B=±0.16A			±0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=±5A, I_B=±0.16A			±1.5	V
Transition frequency	f_T	V_{CE}=±10V, I_C=±0.5A, f=10MHz		150		MHz
Collector output capacitance	C_{ob}	V_{CB}=±10V, I_E=0, f=1MHz		140		pF
Turn-on time	t_{on}	I_C=±2A, I_{B1}=±66mA, I_{B2}=∓66mA	(typ.) NPN:0.3, PNP:0.1			μs
Storage time	t_{stg}		(typ.) NPN:0.3, PNP:0.5			μs
Fall time	t_f			0.1		μs

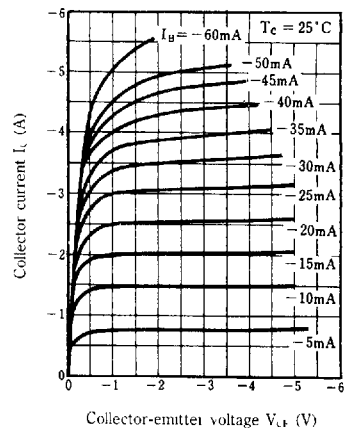
$P_D - Ta$



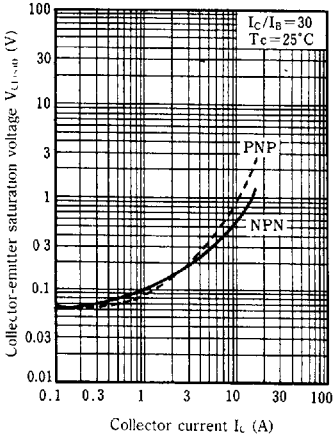
$I_C - V_{CE}$ (NPN)



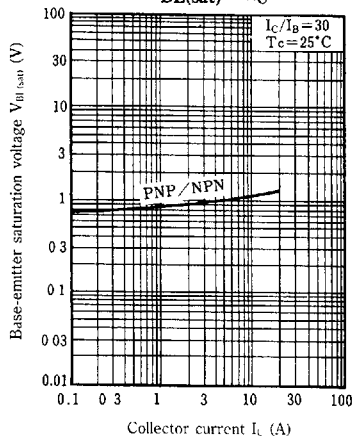
$I_C - V_{CE}$ (PNP)



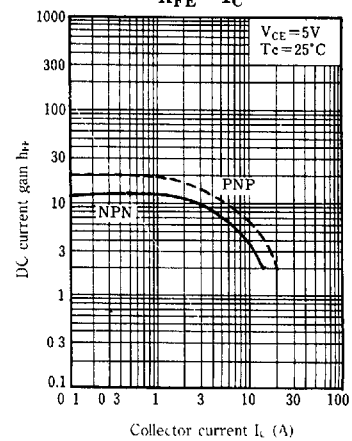
$V_{CE(sat)} - I_C$



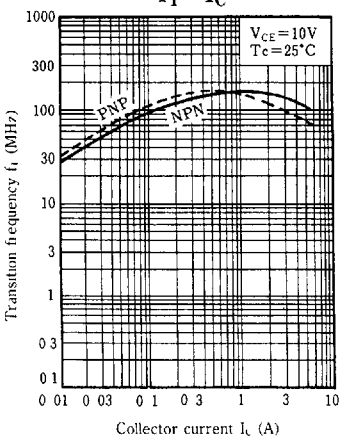
$V_{BE(sat)} - I_C$



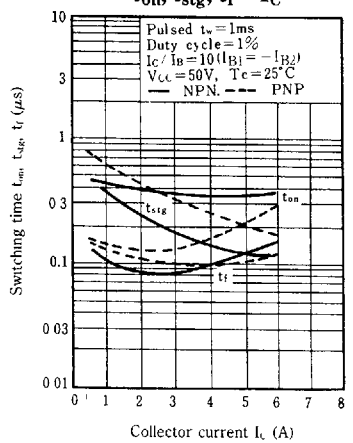
$h_{FE} - I_C$



$f_T - I_C$



$t_{on}, t_{stg}, t_f - I_C$



Area of safe operation (ASO)