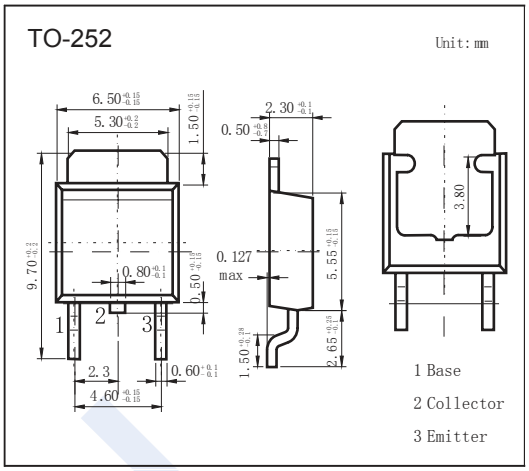
NPN Transistors

2SD1760



■ Features

- Low $V_{CE\ (sat)}$
- Complementary to 2SB1184

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	60	V
Collector - Emitter Voltage	V_{CEO}	50	
Emitter - Base Voltage	V_{EBO}	5	
Collector Current - Continuous	I_C	3	A
Collector Current - Pulse	I_{CP}	4.5	
Collector Power Dissipation Tc=25°C	P_C	15	W
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{stg}	-55 to 150	

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	I_C= 100 uA, I_E= 0	60			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= 1 mA, I_B= 0	50			
Emitter - base breakdown voltage	V_{EBO}	I_E= 100 uA, I_C= 0	5			
Collector-base cut-off current	I_{CBO}	V_{CB}= 50 V , I_E= 0			1	uA
Emitter cut-off current	I_{EBO}	V_{EB}= 4V , I_C=0			1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=2 A, I_B=200 mA		0.5	1	V
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=2 A, I_B=200 mA			1.2	
DC current gain	h_{FE}	V_{CE}= 3V, I_C= 500 mA	120		390	
Collector Output capacitance	C_{ob}	V_{CB}= 10V, I_E= 0,f=1MHz		40		pF
Transition frequency	f_T	V_{CE}= 5V, I_E= -500mA,f=30MHz		90		MHz

■ Classification of h_{fe}

Type	2SD1760-Q	2SD1760-R
Range	120-270	180-390

NPN Transistors

2SD1760

■ Typical Characterisitics

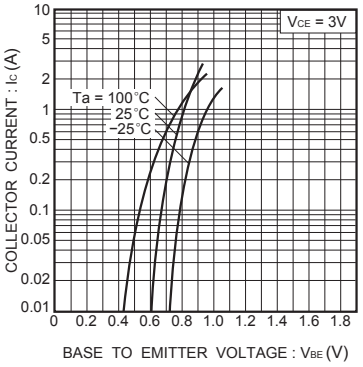


Fig.1 Grounded emitter propagation characteristics

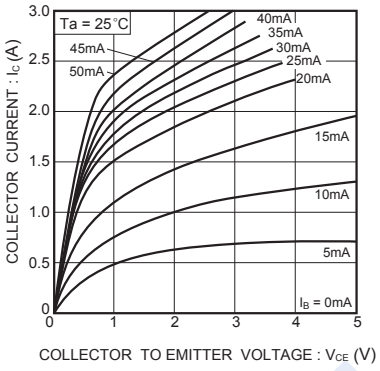


Fig.2 Grounded emitter output characteristics (1)

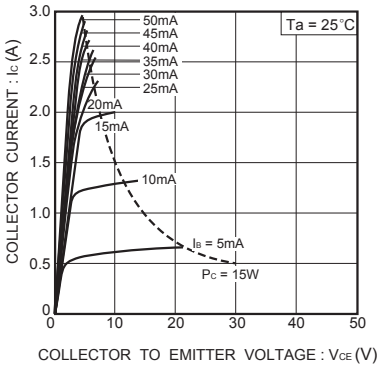


Fig.3 Grounded-emitter output characteristics(2)

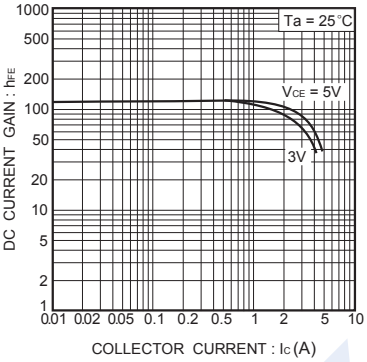


Fig.4 DC current gain vs. collector current(1)

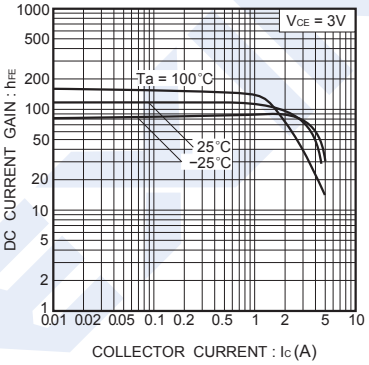


Fig.5 DC current gain vs. collector curren(2)

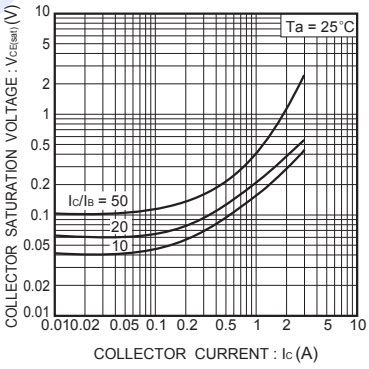


Fig.6 Collector-emitter saturation voltage vs. collector current

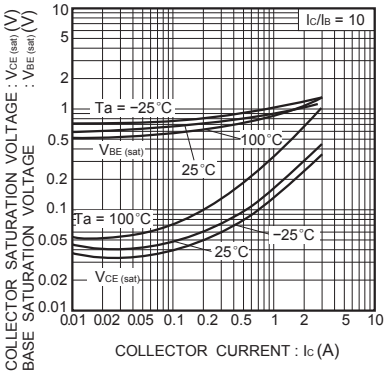


Fig.7 Collector-emitter saturation voltage vs. collector current Base-emitter saturation voltage vs. collector current

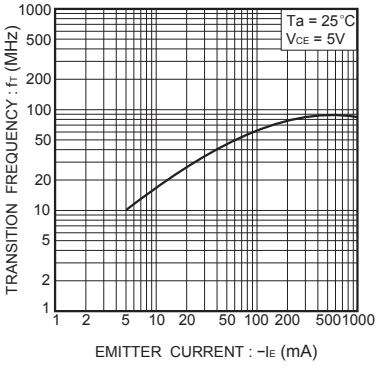


Fig.8 Gain bandwidth product vs. emitter current

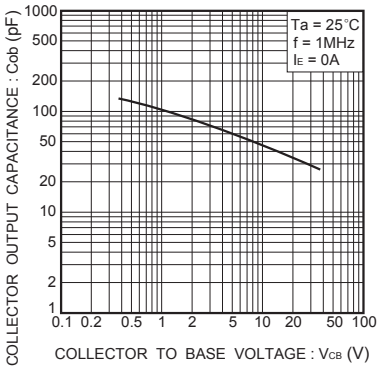


Fig.9 Collector output capacitance vs. collector-base voltage

NPN Transistors

2SD1760

■ Typical Characterisitics

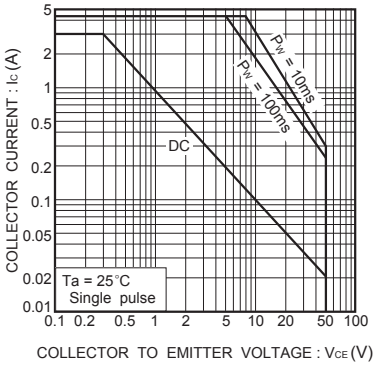


Fig.10 Safe operating area

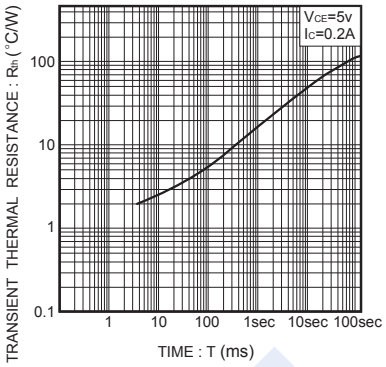


Fig.11 Transient thermal resistance