

2SD1752, 2SD1752A

Silicon NPN epitaxial planar type

For power amplification and low-voltage switching

Complementary to 2SB1148 and 2SB1148A

Features

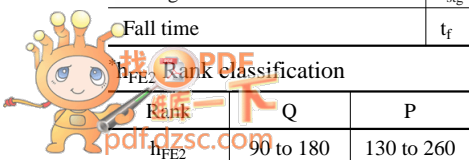
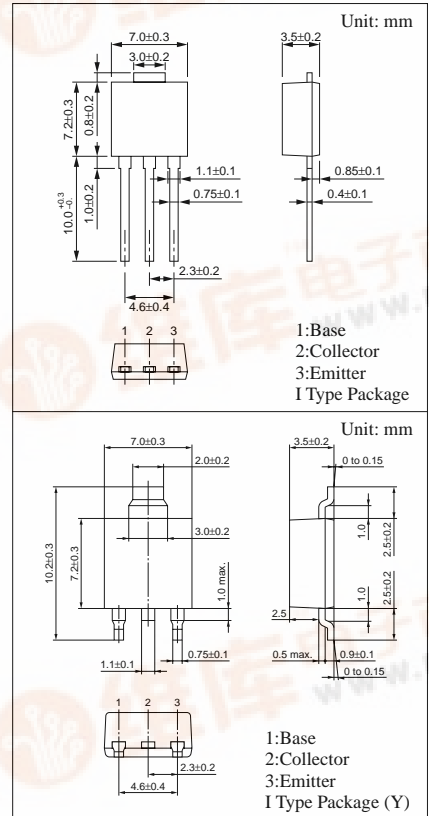
- Low collector to emitter saturation voltage $V_{CE(sat)}$
- High-speed switching
- Satisfactory linearity of forward current transfer ratio h_{FE}
- Large collector current I_C
- I type package enabling direct soldering of the radiating fin to the printed circuit board, etc. of small electronic equipment.

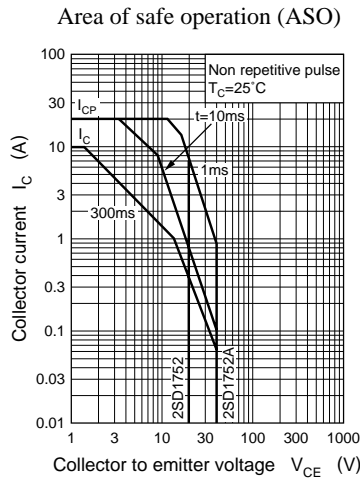
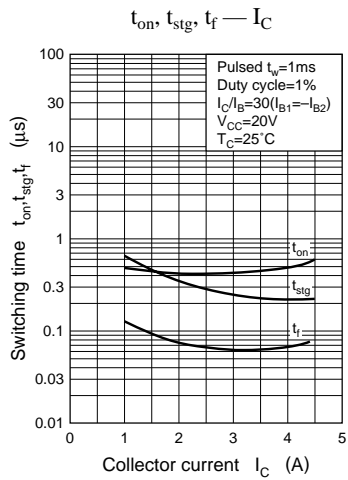
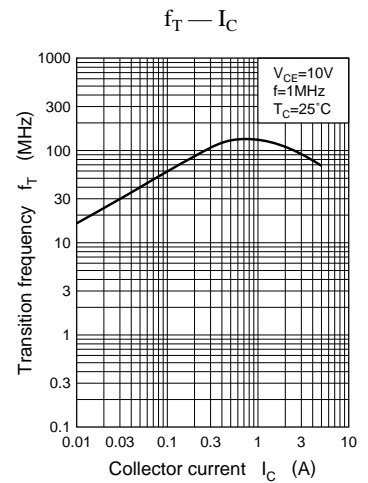
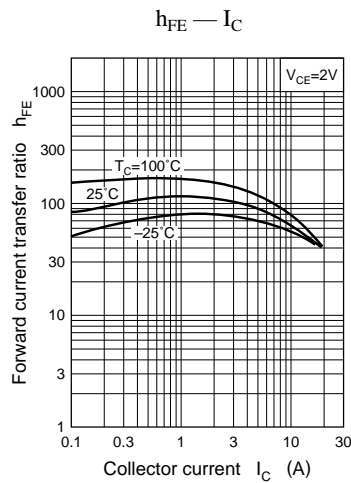
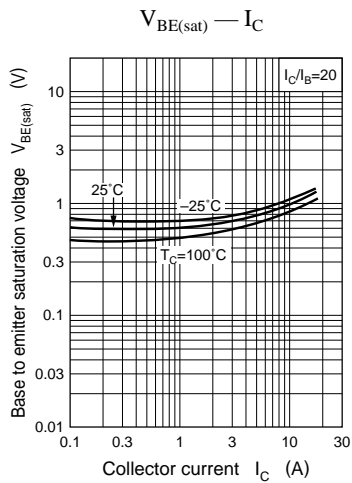
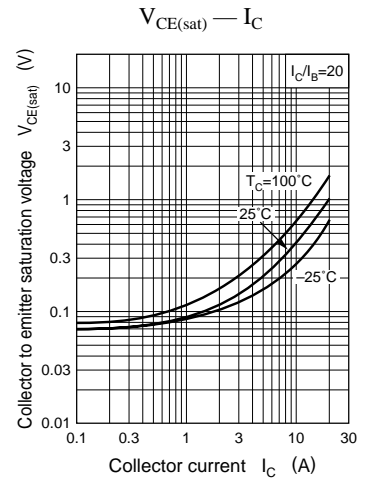
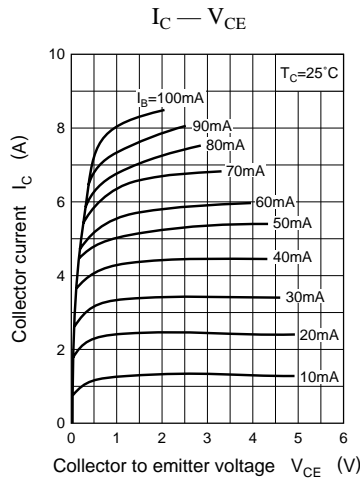
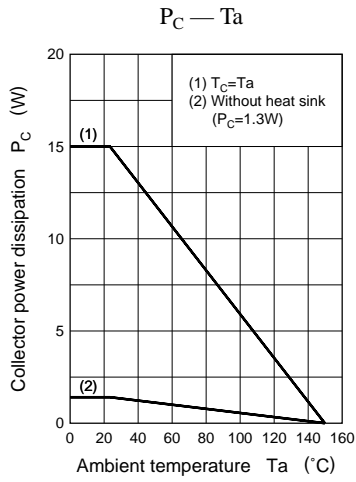
Absolute Maximum Ratings ($T_C=25^\circ C$)

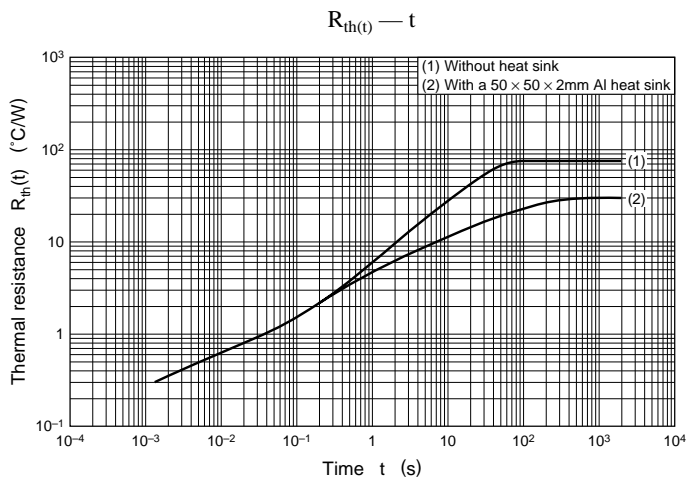
Parameter	Symbol	Rated	Unit	
Collector to base voltage	2SD1752 2SD1752A	V_{CBO}	40	V
Collector to emitter voltage			20	
Emitter to base voltage	2SD1752A	V_{EBO}	5	V
Peak collector current	I_{CP}	20	A	
Collector current	I_C	10	A	
Collector power dissipation	P_C	15	W	
				$T_C=25^\circ C$
Junction temperature	T_j	150	$^\circ C$	
Storage temperature	T_{stg}	-55 to +150	$^\circ C$	

Electrical Characteristics ($T_C=25^\circ C$)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	2SD1752 2SD1752A	I_{CBO}	$V_{CB} = 40V, I_E = 0$		50	μA
			$V_{CB} = 50V, I_E = 0$		50	
Emitter cutoff current	I_{EBO}	$V_{EB} = 5V, I_C = 0$			50	μA
Collector to emitter voltage	2SD1752 2SD1752A	V_{CEO}	$I_C = 10mA, I_B = 0$	20		V
				40		
Forward current transfer ratio	h_{FE1} h_{FE2}^*	$V_{CE} = 2V, I_C = 0.1A$		45		
			$V_{CE} = 2V, I_C = 3A$	90	260	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10A, I_B = 0.33A$			0.6	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = 10A, I_B = 0.33A$			1.5	V
Transition frequency	f_T	$V_{CE} = 10V, I_C = 0.5A, f = 10MHz$		120		MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$		200		pF
Turn-on time	t_{on}	$I_C = 3A, I_{B1} = 0.1A, I_{B2} = -0.1A, V_{CC} = 20V$		0.3		μs
Storage time	t_{stg}			0.4		μs
Fall time	t_f			0.1		μs







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