# 2SD1964

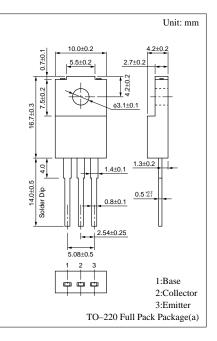
### Silicon NPN epitaxial planar type

#### For power switching

#### Features

- Low collector to emitter saturation voltage  $V_{CE(sat)}$
- $\bullet~$  Satisfactory linearity of foward current transfer ratio  $h_{FE}$
- Large collector current I<sub>C</sub>
- Full-pack package which can be installed to the heat sink with one screw

Absolute Maximum Ratings $(T_c=25^{\circ}C)$							
Parameter		Symbol	Ratings	Unit			
Collector to base voltage		V <sub>CBO</sub>	130	V			
Collector to emitter voltage		V <sub>CEO</sub>	80	V			
Emitter to base voltage		V <sub>EBO</sub>	7	V			
Peak collector current		I <sub>CP</sub>	25	А			
Collector current		I <sub>C</sub>	15	А			
Collector power	T <sub>C</sub> =25°C	D	50	337			
dissipation	Ta=25°C	P <sub>C</sub>	2	W			
Junction temperature		Tj	150	°C			
Storage temperature		T <sub>stg</sub>	-55 to +150	°C			

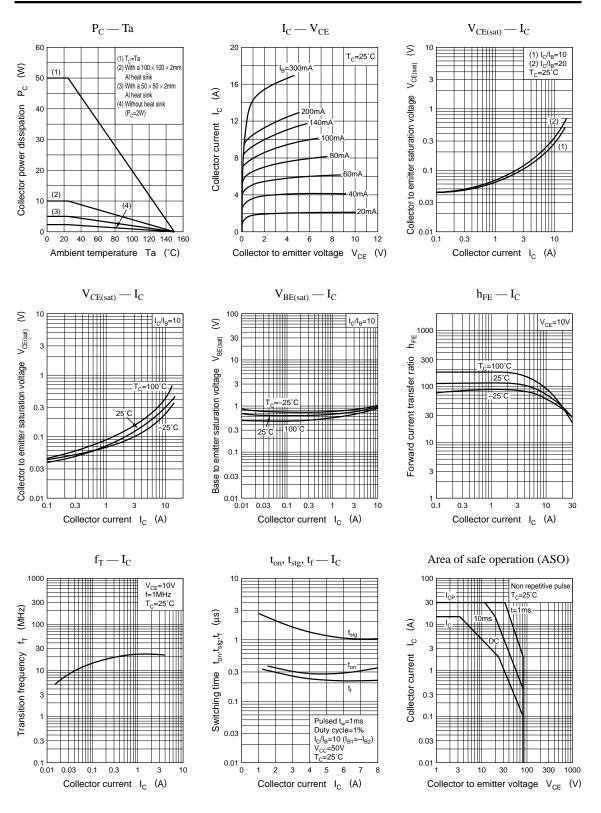


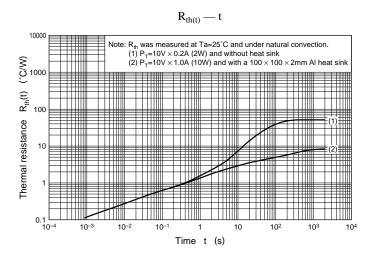
#### Electrical Characteristics $(T_c=25^{\circ}C)$

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I <sub>CBO</sub>	$V_{CB} = 100V, I_E = 0$			10	μΑ
Emitter cutoff current	I <sub>EBO</sub>	$V_{EB} = 5V, I_C = 0$			50	μΑ
Collector to emitter voltage	V <sub>CEO</sub>	$I_C = 10mA$ , $I_B = 0$	80			v
Forward current transfer ratio	h <sub>FE1</sub>	$V_{CE} = 2V, I_{C} = 0.1A$	45			
	h <sub>FE2</sub> *	$V_{CE} = 2V, I_C = 3A$	90		260	
	h <sub>FE3</sub>	$V_{CE} = 2V, I_C = 8A$	30			
Collector to emitter saturation voltage	V <sub>CE(sat)1</sub>	$I_{\rm C} = 7A, I_{\rm B} = 0.35A$			0.5	v
	V <sub>CE(sat)2</sub>	$I_{C} = 15A, I_{B} = 1.5A$			1.5	v
Base to emitter saturation voltage	V <sub>BE(sat)1</sub>	$I_{\rm C} = 7A, I_{\rm B} = 0.35A$			1.5	v
	V <sub>BE(sat)2</sub>	$I_{\rm C} = 15 {\rm A},  I_{\rm B} = 1.5 {\rm A}$			2.5	v
Transition frequency	f <sub>T</sub>	$V_{CE} = 10V, I_C = 0.5A, f = 1MHz$		20		MHz
Turn-on time t <sub>on</sub>				0.5		μs
Storage time	t <sub>stg</sub>	$I_{\rm C} = 7A, I_{\rm B1} = 0.7A, I_{\rm B2} = -0.7A,$		2.0		μs
Fall time	t <sub>f</sub>	$V_{\rm CC} = 50 V$		0.2		μs

\*hFE2 Rank classification

Rank	Q	Р
h <sub>FE2</sub>	90 to 180	130 to 260





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