



**2SD1583-Z**■ Electrical Characteristics  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 20\text{ V}, I_E = 0$			10	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 5\text{ V}, I_C = 0$			10	$\mu\text{A}$
DC current gain *	hFE	$V_{CE} = 5\text{ V}, I_C = 0.5\text{ A}$	800	2000	3200	
		$V_{CE} = 5\text{ V}, I_C = 50\text{ mA}$	600	2000		
		$V_{CE} = 5\text{ V}, I_C = 2\text{ A}$	500	1400		
Collector saturation voltage *	$V_{CE(sat)}$	$I_C = 1.0\text{ A}, I_B = 10\text{ mA}$		0.18	0.5	V
Base saturation voltage *	$V_{BE(sat)}$	$I_C = 1.0\text{ A}, I_B = 10\text{ mA}$		0.85	1.2	V
Gain bandwidth product	f <sub>T</sub>	$V_{CE} = 5\text{ V}, I_E = 100\text{ mA}$		270		MHz
Output capacitance	$C_{ob}$	$V_{CB} = 10\text{ V}, I_E = 0, f = 1.0\text{ MHz}$		20		pF
Turn-on time	t <sub>on</sub>	$I_C = 1\text{ A}, V_{CC} = 10\text{ V}$		0.6		$\mu\text{s}$
Storage time	t <sub>stg</sub>	$I_{B1} = -I_{B2} = 10\text{ mA}$		1.5		$\mu\text{s}$
Fall time	t <sub>f</sub>			0.3		$\mu\text{s}$

\* Pulsed:  $PW \leq 350\ \mu\text{s}$ , duty cycle  $\leq 2\%$ 

## ■ hFE Classification

Marking	M	L	K
hFE	800~1600	1000~2000	1600~3200