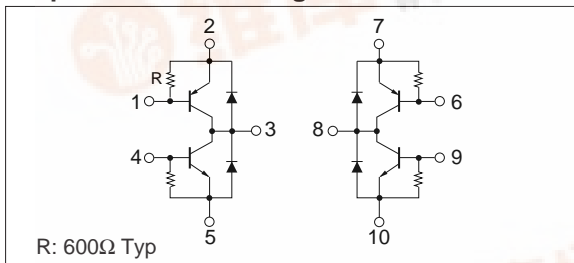


Absolute maximum ratings

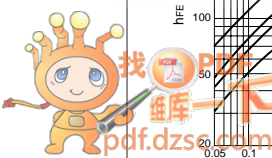
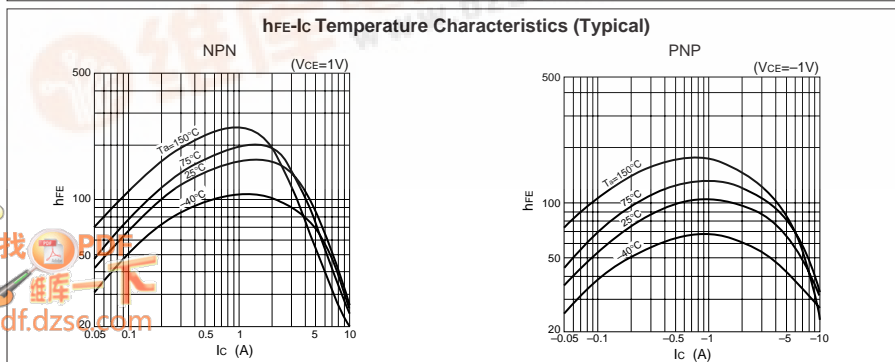
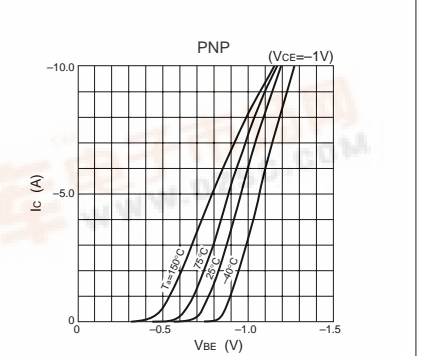
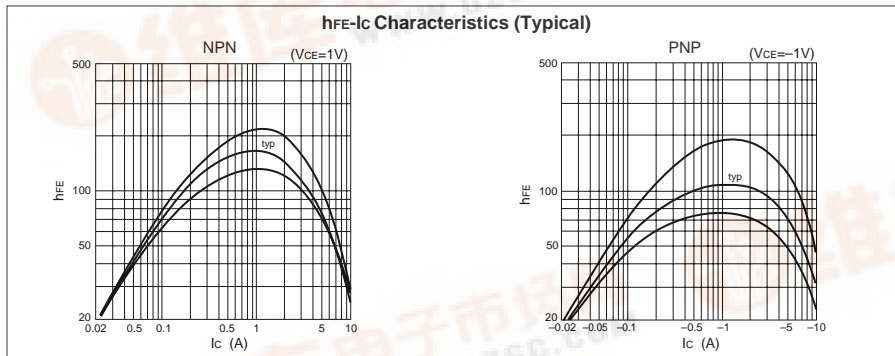
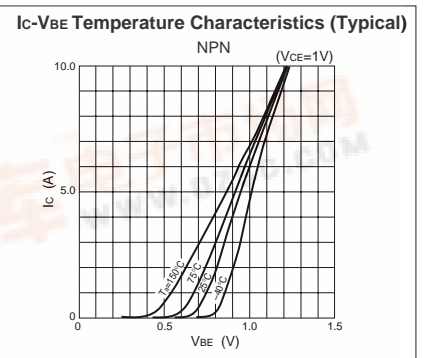
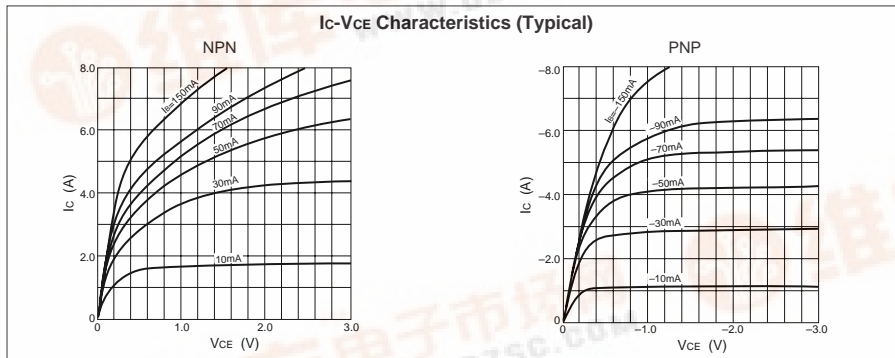
($T_a=25^\circ\text{C}$)

Symbol	Ratings		Unit
	NPN	PNP	
V_{CBO}	50	-50	V
V_{CEO}	30	-30	V
V_{EBO}	6	-6	V
I_C	5	-5	A
I_{CP}	10(PW \leq 10ms, Du \leq 50%)		A
I_B	1	-1	A
P_T	4 ($T_a=25^\circ\text{C}$)		W
	20 ($T_c=25^\circ\text{C}$)		
T_j	150		$^\circ\text{C}$
T_{stg}	-40 to +50		$^\circ\text{C}$
T_{FSM}	20 (Single half-cycle sinewave)		A

Equivalent circuit diagram



Characteristic curves



STA458C

Electrical characteristics

($T_a=25^\circ\text{C}$)

Symbol	NPN					PNP				
	Specification			Unit	Conditions	Specification			Unit	Conditions
	min	typ	max			min	typ	max		
I_{CBO}			10	μA	$V_{CB}=50\text{V}$			-10	μA	$V_{CB}=-50\text{V}$
I_{EBO}			20	mA	$V_{EB}=6\text{V}$			-20	mA	$V_{EB}=-6\text{V}$
V_{CEO}	30			V	$I_C=25\text{mA}$	-30			V	$I_C=-25\text{mA}$
h_{FE}	70				$V_{CE}=1\text{V}, I_C=1\text{A}$	70				$V_{CE}=-1\text{V}, I_C=-1\text{A}$
	40				$V_{CE}=1\text{V}, I_C=4\text{A}$	40				$V_{CE}=-1\text{V}, I_C=-4\text{A}$
$V_{CE(sat)}$			0.5	V	$I_C=3\text{A}, I_B=0.1\text{A}$			-0.5	V	$I_C=-3\text{A}, I_B=-0.1\text{A}$
t_{on}		0.3		μs	$V_{CC}=12\text{V},$ $I_C=3\text{A},$ $I_{B1}=-I_{B2}=100\text{mA}$ $I_F=I_R=100\text{mA}$			0.3	μs	$V_{CC}=-12\text{V},$ $I_C=-3\text{A},$ $I_{B1}=-I_{B2}=-100\text{mA}$ $I_F=I_R=100\text{mA}$
t_{stg}		0.5		μs				0.5	μs	
t_f		0.1		μs				0.1	μs	
t_{rr}		2.0		μs				2.0	μs	

Characteristic curves

