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SLA6024

PNP + NPN Darlington
 3-phase motor drive

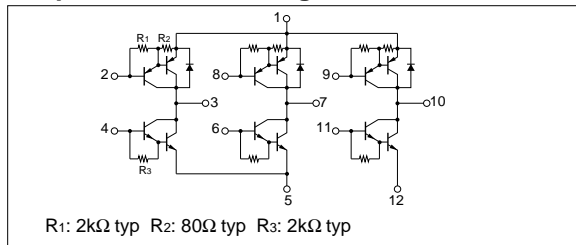
External dimensions SLA (12-pin)

Absolute maximum ratings

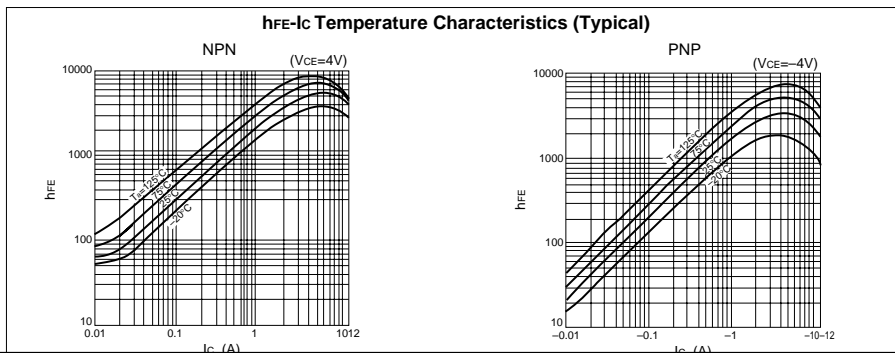
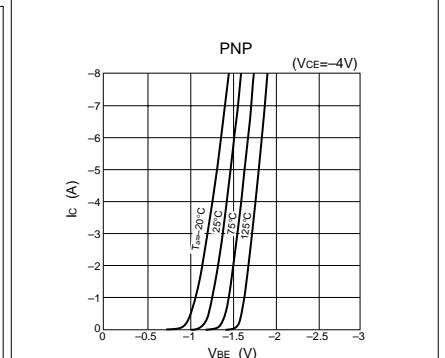
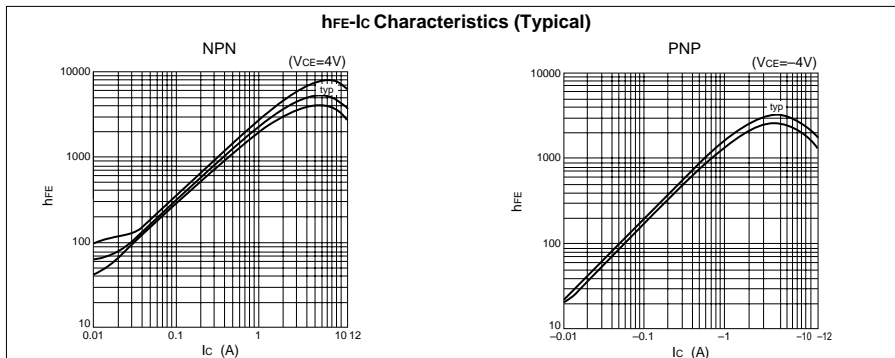
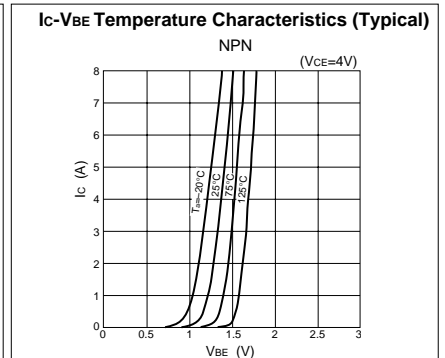
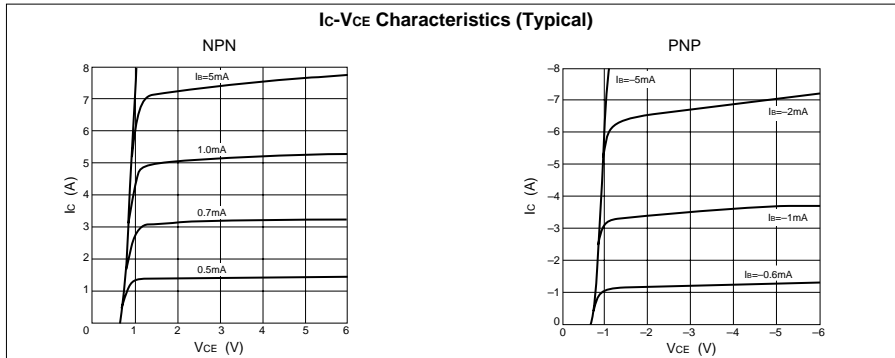
($T_a=25^\circ\text{C}$)

Symbol	Ratings		Unit
	NPN	PNP	
V_{CBO}	60	-60	V
V_{CEO}	60	-60	V
V_{EBO}	6	-6	V
I_c	8	-8	A
I_{CP}	12 ($PW \leq 1\text{ms}, D_u \leq 50\%$)	-12 ($PW \leq 1\text{ms}, D_u \leq 50\%$)	A
I_{FEC}	—	-8	A
$I_{FEC P}$	—	-12	A
I_B	0.5	-0.5	A
P_T	5 ($T_a=25^\circ\text{C}$)		W
	25 ($T_c=25^\circ\text{C}$)		
V_{ISO}	1000 (Between fin and lead pin, AC)		V_{rms}
T_j	150		$^\circ\text{C}$
T_{stg}	-40 to +150		$^\circ\text{C}$
θ_{j-c}	5		$^\circ\text{C/W}$

Equivalent circuit diagram



Characteristic curves



SLA6024

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	$V_{CB}=60\text{V}$			-10	μA	$V_{CB}=-60\text{V}$
I_{EBO}			10	μA	$V_{EB}=6\text{V}$			-10	mA	$V_{EB}=-6\text{V}$
V_{CEO}	60			V	$I_C=10\text{mA}$	-60			V	$I_C=-10\text{mA}$
h_{FE}	2000	5000	12000		$V_{CE}=4\text{V}, I_C=5\text{A}$	2000	5000	12000		$V_{CE}=-4\text{V}, I_C=-5\text{A}$
$V_{CE(sat)}$			1.5	V	$I_C=5\text{A}, I_B=10\text{mA}$			-1.5	V	$I_C=-5\text{A}, I_B=-10\text{mA}$
$V_{BE(sat)}$			2.0	V				-2.0	V	
V_{FEC}		—		V				2.0	V	$I_{FEC}=5\text{A}$
t_{rr}		—		μs			1.0		μs	$I_{FEC}=\pm 0.5\text{A}$
t_{on}		0.5		μs	$V_{CC}=\pm 25\text{V}, I_C=5\text{A}, I_{B1}=-I_{B2}=10\text{mA}$			0.5	μs	$V_{CC}=\pm 25\text{V}, I_C=-5\text{A}, I_{B1}=-I_{B2}=-10\text{mA}$
t_{stg}		2.0		μs				1.4	μs	
t_f		1.2		μs				0.6	μs	
f_T		50		MHz				100	MHz	
C_{ob}		100		pF	$V_{CB}=10\text{V}, f=1\text{MHz}$			130	pF	$V_{CB}=-10\text{V}, f=1\text{MHz}$

Characteristic curves

