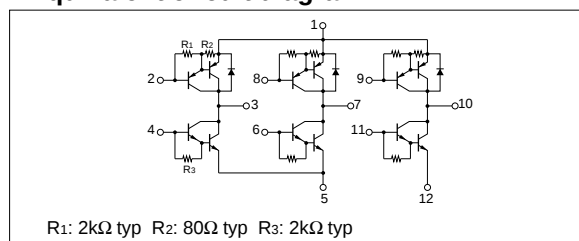


Absolute maximum ratings

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

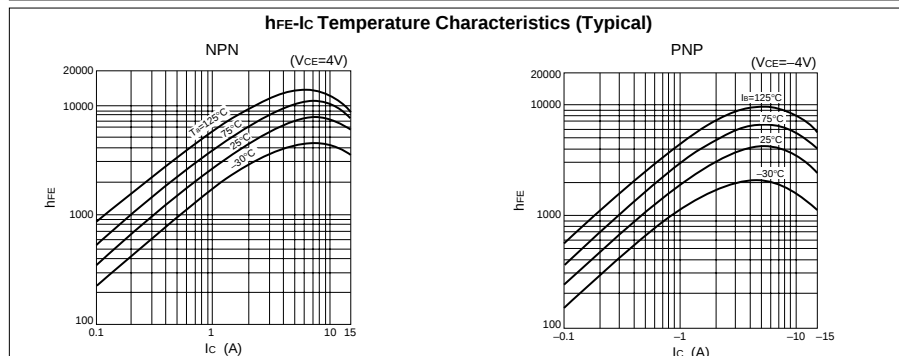
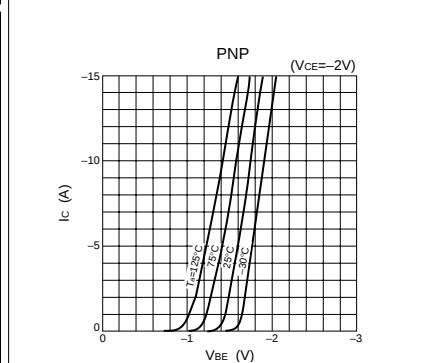
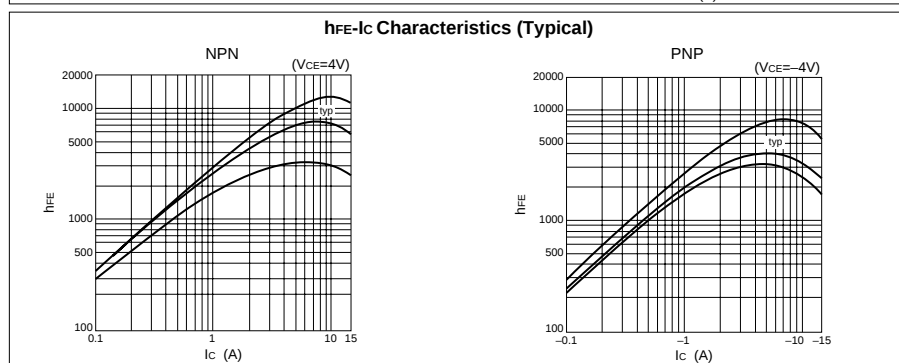
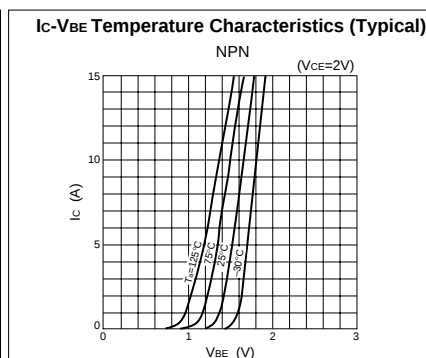
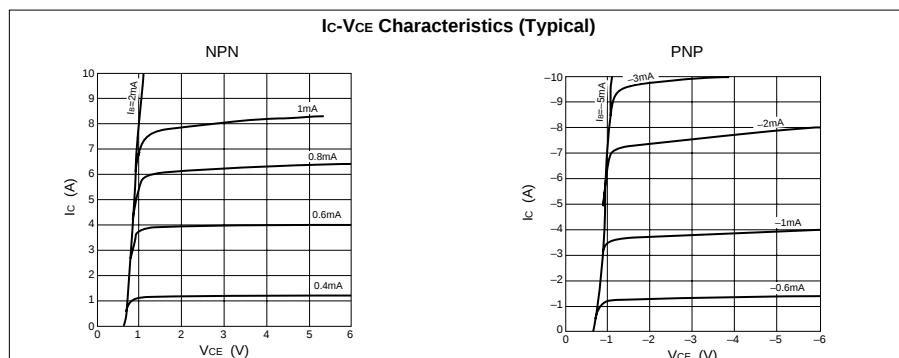
Symbol	Ratings		Unit
	NPN	PNP	
V _{CB0}	60	−60	V
V _{CE0}	60	−60	V
V _{EB0}	6	−6	V
I _C	10	−10	A
I _{CP}	15 (PW≤1ms, D _u ≤50%)	−15 (PW≤1ms, D _u ≤50%)	A
I _{FEC}	—	−10	A
I _{FECp}	—	−15	A
I _B	0.5	−0.5	A
P _T	5 (T _a =25°C)		W
	35 (T _c =25°C)		
V _{ISO}	1000 (Between fin and lead pin, AC)		V _{rms}
T _j	150		°C
T _{stg}	−40 to +150		°C
θ _{J-C}	3.57		°C/W

■Equivalent circuit diagram



Characteristic curves

Characteristic curves



Electrical characteristics

(Ta=25°C)

Symbol	NPN					PNP				
	Specification			Unit	Conditions	Specification			Unit	Conditions
	min	typ	max			min	typ	max		
ICBO			10	μA	$V_{CB}=60\text{V}$			-10	μA	$V_{CB}=-60\text{V}$
IEBO			10	μA	$V_{EB}=6\text{V}$			-10	mA	$V_{EB}=-6\text{V}$
VCEO	60			V	$I_C=10\text{mA}$	-60			V	$I_C=-10\text{mA}$
hFE	2000	5000	12000		$V_{CE}=4\text{V}, I_C=6\text{A}$	2000	5000	12000		$V_{CE}=-4\text{V}, I_C=-6\text{A}$
VCE(sat)			1.5	V	$I_C=6\text{A}, I_B=12\text{mA}$			-1.5	V	$I_C=-6\text{A}, I_B=-12\text{mA}$
VBE(sat)			2.0	V				-2.0	V	
VFEC		—		V				2.0	V	$I_{FEC}=-6\text{A}$
t _{rr}		—		μs			4.0		μs	$I_{FEC}=\pm 0.5\text{A}$
t _{on}		0.6		μs	$V_{CC} \doteq 24\text{V},$ $I_C=6\text{A},$ $I_{B1}=-I_{B2}=12\text{mA}$		0.7		μs	$V_{CC} \doteq -24\text{V},$ $I_C=-6\text{A},$ $I_{B1}=-I_{B2}=-12\text{mA}$
t _{stg}		2.0		μs			1.2		μs	
t _f		1.5		μs			0.7		μs	
f _T		50		MHz	$V_{CE}=12\text{V}, I_E=-1\text{A}$		50		MHz	$V_{CE}=-12\text{V}, I_E=1\text{A}$
C _{ob}		100		pF	$V_{CB}=10\text{V}, f=1\text{MHz}$		180		pF	$V_{CB}=-10\text{V}, f=1\text{MHz}$

Characteristic curves

