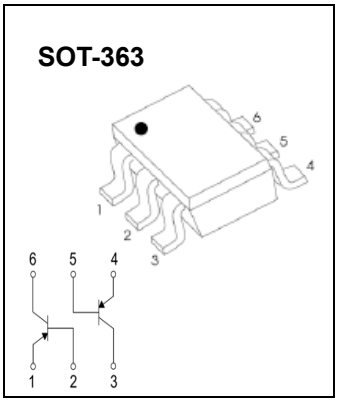
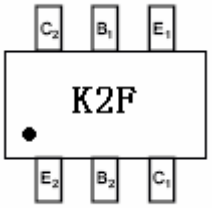
Plastic-Encapsulate Transistors

DUAL TRANSISTOR (PNP+PNP)





FEATURE

- Complementary NPN Type available MMDT2222ADW

MARKING: K2F

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

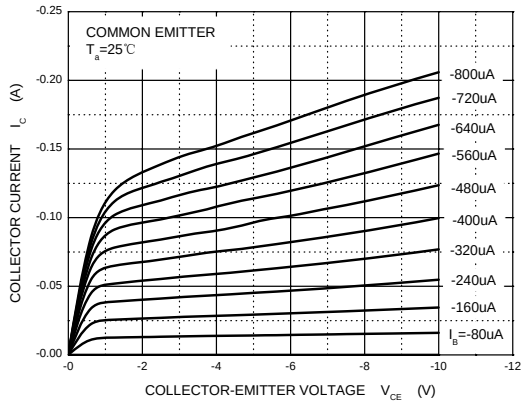
Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-600	mA
P_C	Collector Power Dissipation	200	mW
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55-150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃ unless otherwise specified)

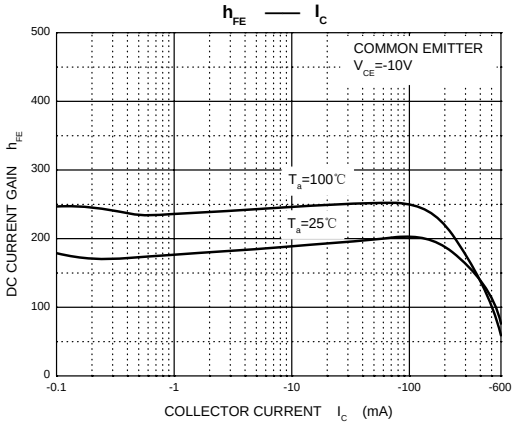
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= -10μA, I_E=0	-60		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= -10mA, I_B=0	-60		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-10μA, I_C=0	-5		V
Collector cut-off current	I_{CBO}	V_{CB}=-50V, I_E=0		-10	nA
Collector cut-off current	I_{CEX}	V_{CE}=-30V,$V_{EB(off)}$=-0.5V		-50	nA
Emitter cut-off current	I_{EBO}	V_{EB}=-5V, I_C=0		-10	nA
DC current gain	$h_{FE(1)}$	V_{CE}=-10V, I_C= -0.1mA	75		
	$h_{FE(2)}$	V_{CE}=-10V, I_C= -1mA	100		
	$h_{FE(3)}$	V_{CE}=-10V, I_C=-10mA	100		
	$h_{FE(4)}$	V_{CE}=-10V, I_C= -150mA	100	300	
	$h_{FE(5)}$	V_{CE}=-10V, I_C=-500mA	50		
Collector-emitter saturation voltage	$V_{CE(sat)1}$	I_C=-150mA, I_B=-15mA		-0.4	V
	$V_{CE(sat)2}$	I_C=-500mA, I_B=- 50mA		-1.6	V
Base-emitter saturation voltage	$V_{BE(sat)1}$	I_C=-150mA, I_B=-15mA		-1.3	V
	$V_{BE(sat)2}$	I_C=-500mA, I_B= -50mA		-2.6	V
Transition frequency	f_T	V_{CE}=-20V, I_C= -50mA,f=100MHz	200		MHz
Output Capacitance	C_{ob}	V_{CB}=-10V, I_E= 0,f=1MHz		8	pF
Input Capacitance	C_{ib}	V_{EB}=-2V, I_C= 0,f=1MHz		30	pF
Delay time	t_d	V_{CC}=-30V,I_C=-150mA, I_{B1}=-15mA		10	nS
Rise time	t_r			40	nS
Storage time	t_s	V_{CC}=-6V, I_C=-150mA, I_{B1}= I_{B2}= -15mA		225	nS
Fall time	t_f			60	nS

Typical Characteristics

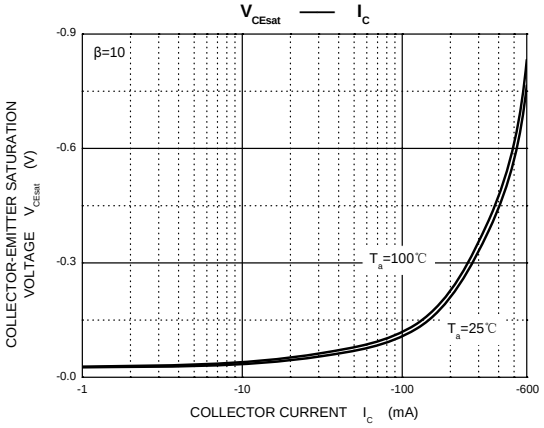
Static Characteristic



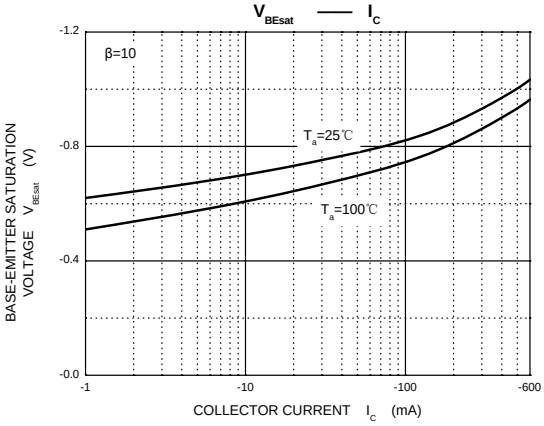
hFE —— IC



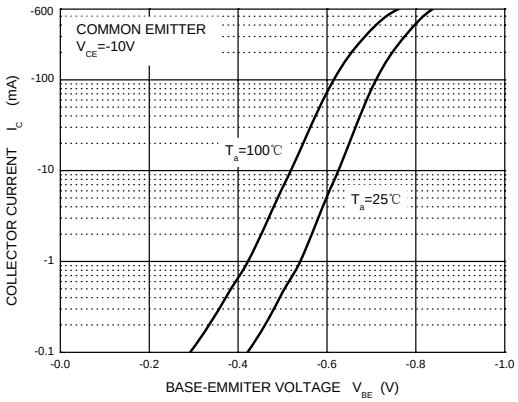
VCEsat —— IC



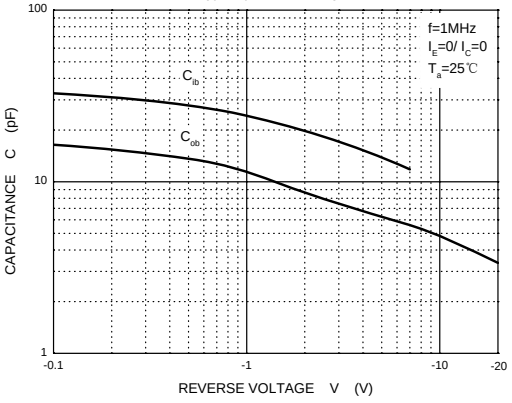
VBEsat —— IC



IC —— VBE



Cob / Cib —— VCB / VEB



PC —— Ta