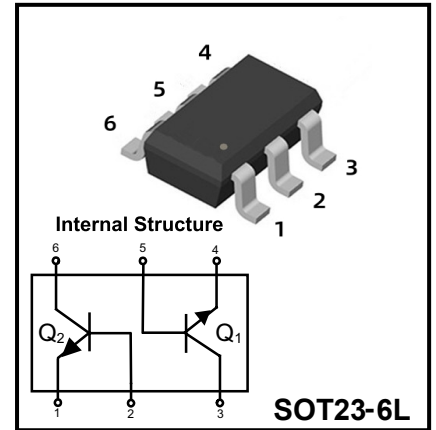


Plastic-Encapsulate Transistors
 DUAL TRANSISTOR (NPN+NPN)

FEATURE

♦Complementary PNP Type available MMDT2907AF

Marking Code	
MMDT2222AF	K1P


MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	75	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	600	mA
P_C	Collector Power Dissipation	300	mW
T_J	Junction Temperature	150	°C
T_{stg}	Storage Temperature	-55-150	°C

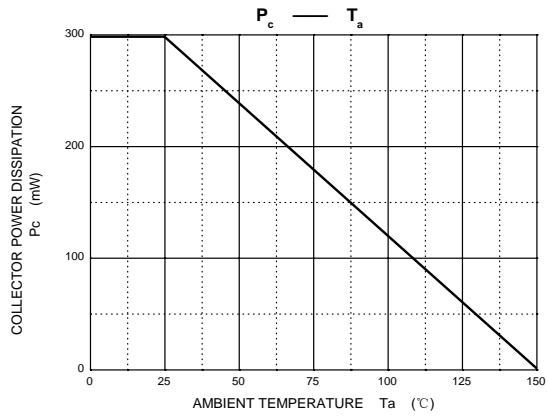
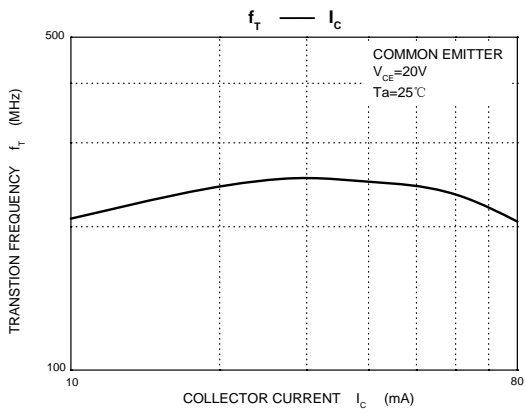
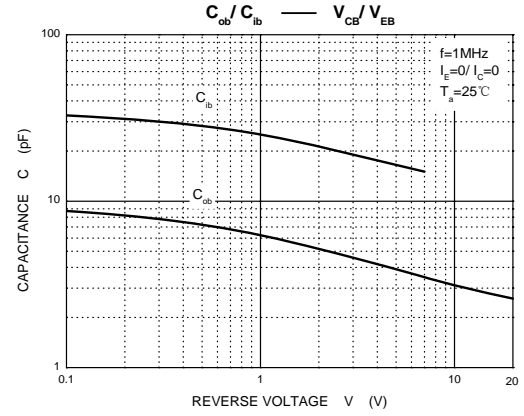
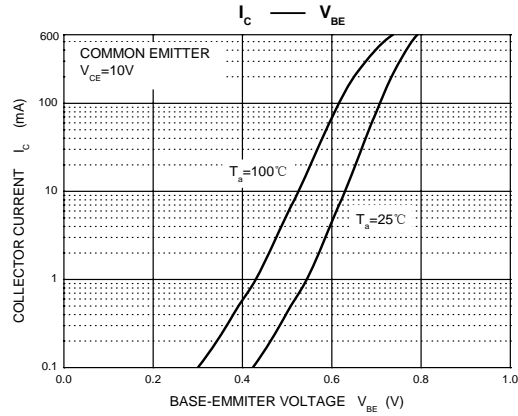
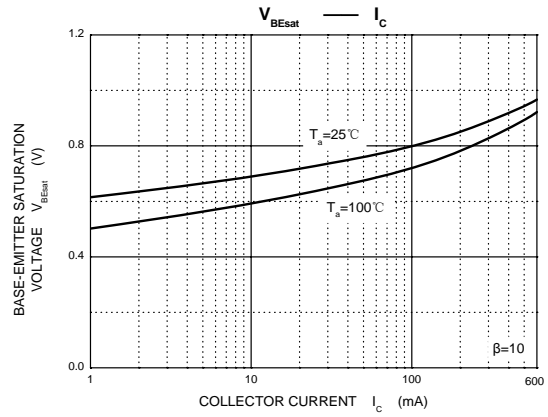
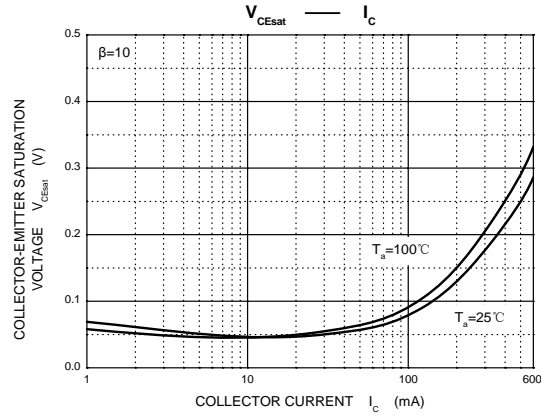
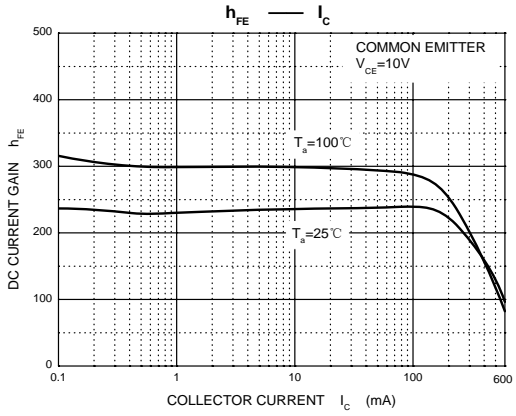
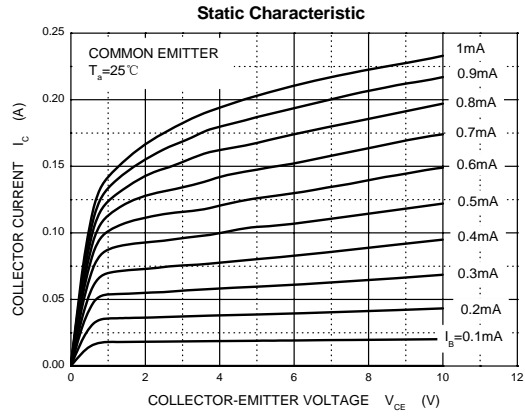
ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 10\mu A, I_E = 0$	75		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10mA, I_B = 0$	40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 10\mu A, I_C = 0$	6		V
Collector cut-off current	I_{CBO}	$V_{CB} = 60V, I_E = 0$		10	nA
Collector cut-off current	I_{CEX}	$V_{CE} = 60V, V_{EB(off)} = 3V$		10	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = 3V, I_C = 0$		10	nA
DC current gain	$h_{FE(1)}$	$V_{CE} = 10V, I_C = 0.1mA$	35		
	$h_{FE(2)}$	$V_{CE} = 10V, I_C = 1mA$	50		
	$h_{FE(3)}$	$V_{CE} = 10V, I_C = 10mA$	75		
	$h_{FE(4)}$	$V_{CE} = 10V, I_C = 150mA$	100	300	
	$h_{FE(5)}$	$V_{CE} = 10V, I_C = 500mA$	40		
	$h_{FE(6)}$	$V_{CE} = 1V, I_C = 150mA$	35		
Collector-emitter saturation voltage	$V_{CE(sat)1}$	$I_C = 150mA, I_B = 15mA$		0.3	V
	$V_{CE(sat)2}$	$I_C = 500mA, I_B = 50mA$		1	V
Base-emitter saturation voltage	$V_{BE(sat)1}$	$I_C = 150mA, I_B = 15mA$	0.6	1.2	V
	$V_{BE(sat)2}$	$I_C = 500mA, I_B = 50mA$		2	V
Transition frequency	f_T	$V_{CE} = 20V, I_C = 20mA, f = 100MHz$	300		MHz
Output Capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$		8	pF
Input Capacitance	C_{ib}	$V_{EB} = 0.5V, I_C = 0, f = 1MHz$		25	pF
Noise Figure	NF	$V_{CE} = 10V, I_C = 100\mu A, f = 1KHz, R_s = 1K\Omega$		4	dB

Switching characteristics

Parameter	Symbol	Test conditions	Min	Max	Unit
Delay time	t_d	$V_{CC} = 30V, I_C = 150mA, V_{BE(off)} = 0.5V, I_{B1} = 15mA$		10	nS
Rise time	t_r			25	nS
Storage time	t_s	$V_{CC} = 30V, I_C = 150mA, I_{B1} = -I_{B2} = 15mA$		225	nS
Fall time	t_f			60	nS

Typical Characteristics



Ordering information

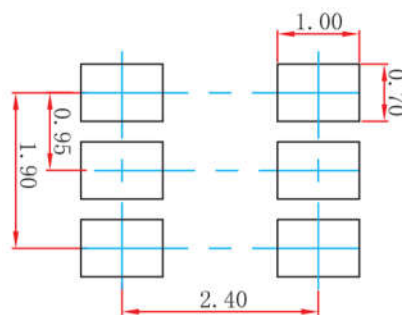
Package	Packing Description	Packing Quantity
SOT23-6L	Tape/Reel,7"reel	3000PCS/Reel 120000PCS/Carton

Package Dimensions

SOT23-6L

Dim.	Millimeter(mm)		mil	
	Min.	Max.	Min.	Max.
A	1.05	1.25	41	49
A1	0	0.10	0	3.9
A2	1.05	1.15	41	45
b	0.30	0.50	11.8	19.7
c	0.10	0.20	3.9	7.9
D	2.82	3.02	111	119
E1	1.50	1.70	45	67
E	2.65	2.95	104	116
e	0.950(BSC)		37(BSC)	
e1	1.80	2.00	71	79
L	0.30	0.60	11.8	23.6
θ	0°	8°	0°	8°

The recommended mounting pad size



Disclaimer

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