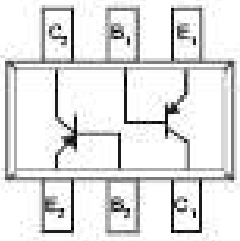
Dual PNP Small Signal Surface Mount Transistor MMDT2907A

FEATURES

- Epitaxial planar die construction.
- Complementary NPN type available MMDT2222A.
- Ultra-small surface mount package.

Lead-free



SOT-363

APPLICATIONS

- For Low power amplification and switching.

ORDERING INFORMATION

Type No.	Marking	Package Code
MMDT2907A	K2F	SOT-363

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	**Parameter**	**Value**	**Unit**
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_D	Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	625	℃/W
T_j, T_{stg}	Junction and Storage Temperature	-55 to +150	℃

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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 V_{CB}=-50V I_E=0 T_A=125℃	-	-10	nA μA
Collecter cut-off current	I_{CEX}	V_{CE}=-30V ,$V_{EB(OFF)}$=-0.5V	-	-50	nA
Base cut-off current	I_{BL}	V_{CE}=-30V ,$V_{EB(OFF)}$=-0.5V	-	-50	nA
DC current gain	h_{FE}	V_{CE}=-10V I_C=-100μA	75	-	-
		V_{CE}=-10V I_C=-1.0mA	100	-	
		V_{CE}=-10V I_C=-10mA	100	-	
		V_{CE}=-10V I_C=-150mA	100	300	
		V_{CE}=-10V I_C=-500mA	50	-	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-150mA I_B=-15mA I_C=-500mA I_B=-50mA	-	-0.4 -1.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=-150mA I_B=-15mA I_C=-500mA I_B=-50mA	-	-1.3 -2.6	V
Transition frequency	f_T	V_{CE}=-20V I_C=-50mA f=100MHz	200	-	MHz
Output Capacitance	C_{obo}	V_{CB}=-10V,f=1.0MHz,I_E=0	-	8	pF
Input Capacitance	C_{ibo}	V_{EB}=-2.0V,f=1.0MHz,I_C=0	-	30	pF
Turn-On Time	t_{on}	V_{cc}=-30V,I_C=-150mA , I_{B1}= -15mA	-	45	ns
Delay time	t_d		-	10	ns
Rise time	t_r		-	40	ns
Turn-Off Time	T_{off}	V_{CC}=-6V, I_C=-150mA I_{B1}=-I_{B2}=-15mA	-	100	ns
Storage time	t_s		-	225	ns
Fall time	t_f		-	60	ns

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TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

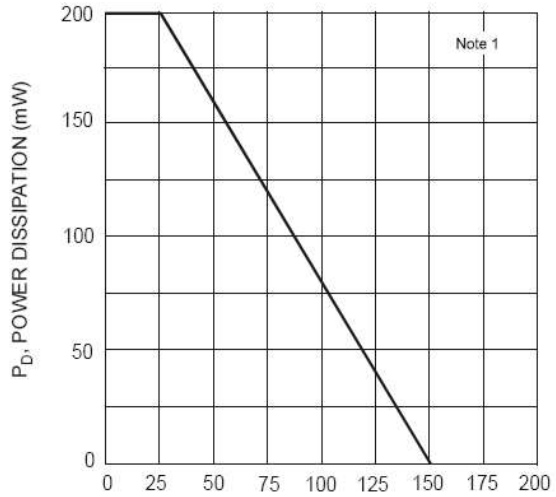

Fig. 1, Max Power Dissipation vs. Ambient Temperature (Total Device)

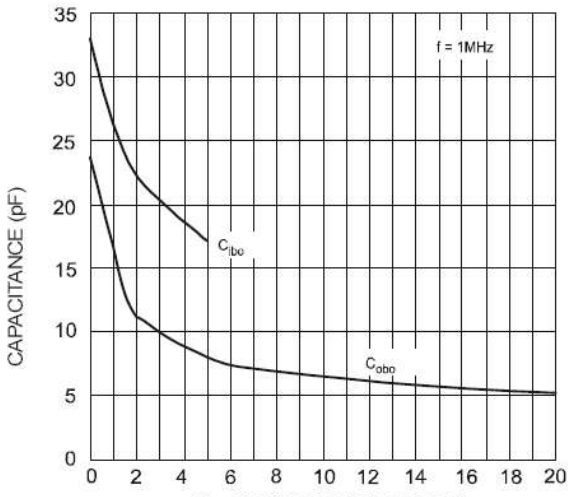

Fig. 2, Typical Capacitance Characteristics

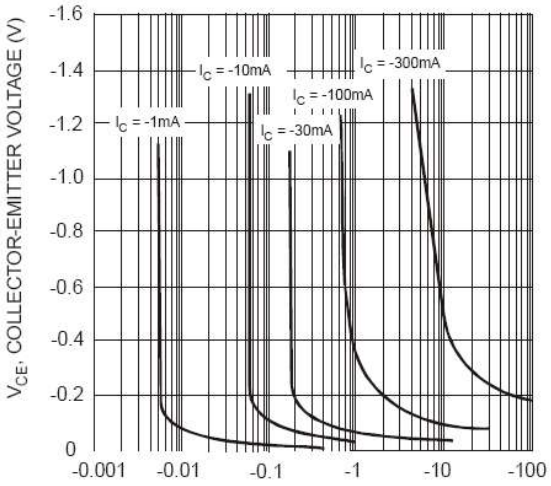

Fig. 3, Typical Collector Saturation Region

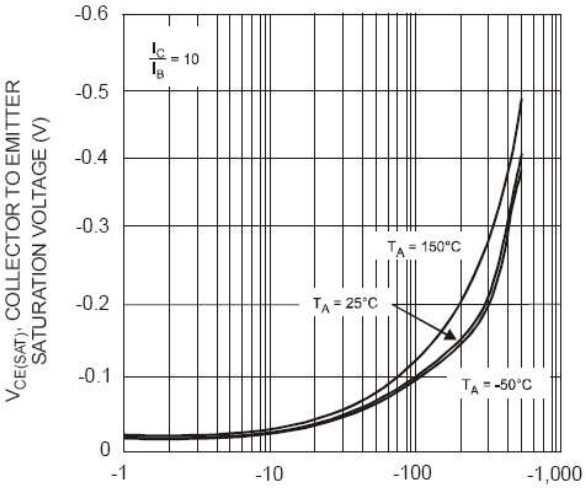

Fig. 4, Collector Emitter Saturation Voltage vs. Collector Current

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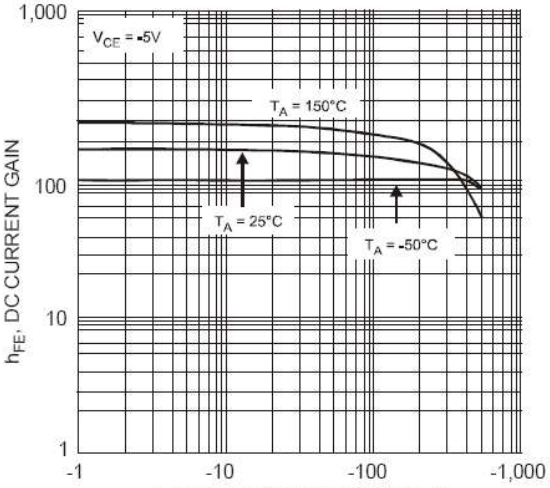

Fig. 5, DC Current Gain vs. Collector Current

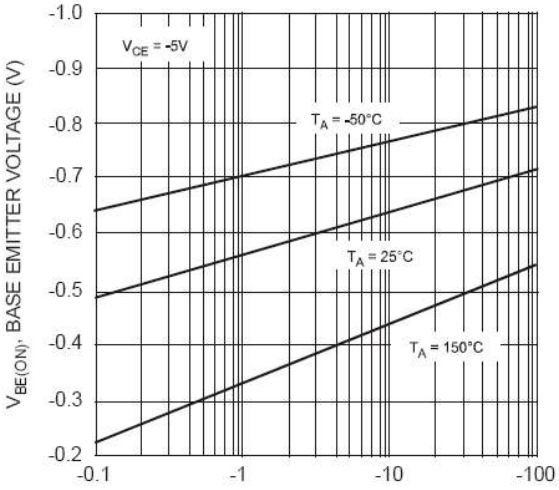

Fig. 6, Base Emitter Voltage vs. Collector Current

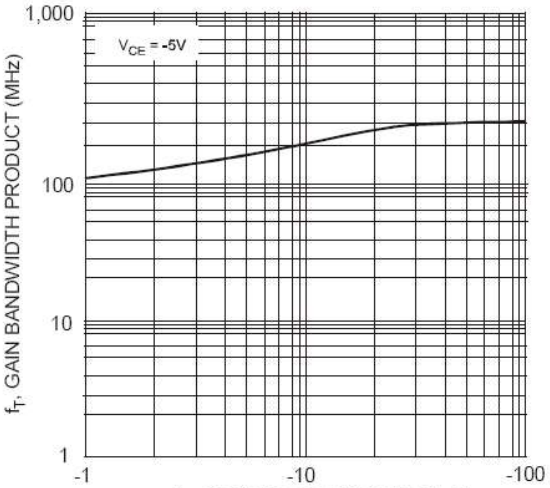

Fig. 7, Gain Bandwidth Product vs. Collector Current

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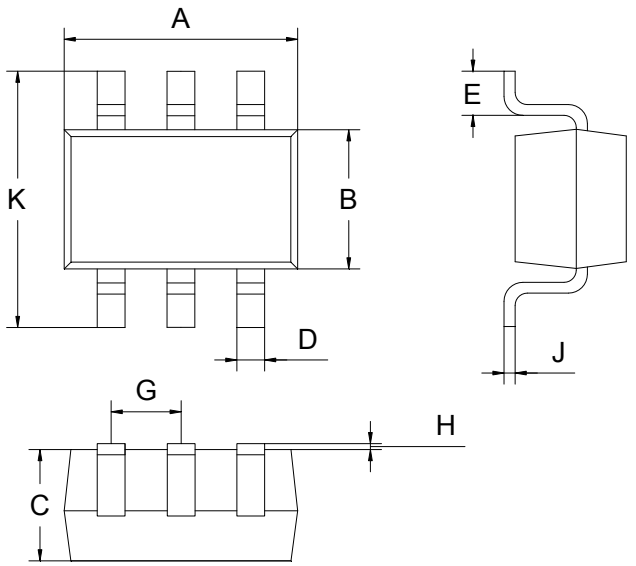
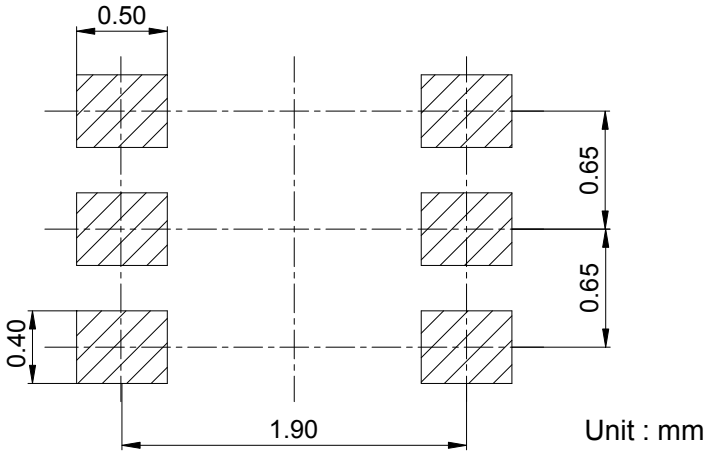
PACKAGE OUTLINE

Plastic surface mounted package SOT-363



SOT-363		
Dim	Min	Max
A	2.00	2.20
B	1.15	1.35
C	0.95 Typical	
D	0.25 Typical	
E	0.25	0.40
G	0.60	0.70
H	0.02	0.10
J	0.10 Typical	
K	2.2	2.4
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
MMDT2907A	SOT-363	3000/Tape&Reel