

### MMDT2222A TRANSISTOR (NPN)

#### FEATURES

Power dissipation

$P_{CM}$ : 0.15 W ( $T_{amb}=25^{\circ}C$ )

Collector current

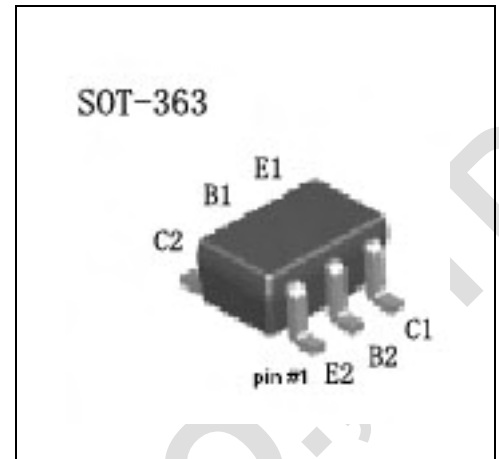
$I_{CM}$ : 0.6 A

Collector-base voltage

$V_{(BR)CBO}$ : 75 V

Operating and storage junction temperature range

$T_J, T_{stg}$ :  $-55^{\circ}C$  to  $+150^{\circ}C$



#### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}C$ 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	$I_{CBO}$	$V_{CB}=60V, I_E=0$		0.01	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=3V, I_C=0$		0.01	$\mu A$
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
Delay time	$t_d$	$V_{CC}=30V, I_C=150mA$		10	nS
Rise time	$t_r$		$V_{BE(off)}=0.5V, I_{B1}=15mA$		25
Storage time	$t_s$	$V_{CC}=30V, I_C=150mA$		225	nS
Fall time	$t_f$		$I_{B1}=I_{B2}=15mA$		60

Marking	:K1P
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