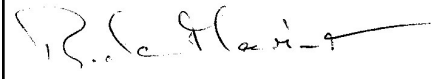




DOCUMENT CHANGE REQUEST

DCR number 411		Changes required for: General		Originator: S Jeffery - ESCC	
Date: 2008/06/18		Date sent: 2008/06/18		Organisation: ESA/ESTEC	
Status: IMPLEMENTED					
Title:		Transistors Low Power NPN, based on type 2N2219A			
Number:		5201/003	Issue:	2	
Other documents affected:					
Page:					
Para. 2.4.1 Page 9					
Paragraph:					
Para. 2.4.1 Page 9					
Original wording:					
Proposed wording:					
See attachment					
Justification:					
Correction of editorial error which was introduced when the specification was converted to ESCC Format (Issue 2)					
Attachments:					
5201003_Issue_3.pdf, null					
Modifications:					
N/A					
Approval signature:					
					
Date signed:					
2008-06-18					

Characteristics	Symbols	MIL-STD-750 Test Method	Test Conditions	Limits		Units
				Min	Max	
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	3001	$I_C = 10\mu A$, Bias Condition D	75	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	3011	$I_C = 10mA$, Bias Condition D Note 1	40	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	3026	$I_E = 10\mu A$, Bias Condition D	6	-	V
Collector-Base Cut-off Current	I_{CBO}	3036	$V_{CB} = 60V$, Bias Condition D	-	10	nA
Emitter-Base Cut-off Current	I_{EBO}	3061	$V_{EB} = 3V$, Bias Condition D	-	10	nA
Collector-Emitter Saturation Voltage	$V_{CE(sat)1}$	3071	$I_C = 150mA$ $I_B = 15mA$ Note 1	-	300	mV
	$V_{CE(sat)2}$	3071	$I_C = 500mA$ $I_B = 50mA$ Note 1	-	1	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	3066	Test Condition A $I_C = 150mA$ $I_B = 15mA$ Note 1	-	1.2	V
Forward-Current Transfer Ratio	h_{FE1}	3076	$V_{CE} = 10V$; $I_C = 10mA$ Note 1	75	-	-
	h_{FE2}	3076	$V_{CE} = 10V$; $I_C = 150mA$ Note 1	100	300	-
	h_{FE3}	3076	$V_{CE} = 10V$; $I_C = 500mA$ Note 1	40	-	-
Magnitude of Small-Signal Short-Circuit Forward-Current Transfer Ratio	$ h_{fe} $	3306	$V_{CE} = 20V$, $I_C = 20mA$ $f = 100MHz$ Note 2	2.5	-	-
Output Capacitance	C_{obo}	3236	$V_{CB} = 10V$ $I_E = 0A$ $100kHz \leq f \leq 1MHz$ Note 2	-	8	pF
Turn-on Time	t_{on}	-	$I_C = 150mA$ $I_B = 15mA$ Notes 2, 3	-	35	ns
Turn-off Time	t_{off}	-	$I_C = 150mA$ $I_B = 15mA$ Notes 2, 4	-	300	ns