Types covered by similarity:

Variant 01 in each Detail Specification is qualified.

Remarks:

These devices have a TID tested capability of 100 kRad (Si)
SEE tested : LET (MeV-cm^2/mg) 56 @ V_{GS} = -10V, V_{DS} = 250V
SOA and SE SOA derating graphs are incorporated in the Detail Specifications.

Procurement Specifications	Manufacturer	Nature of Approval	Supervising Authority	Date
Generic ESCC 5000 Detail ESCC 5205/026 5205/027 5205/028	Infineon Technologies AG Neubiberg Germany	Qualification	DLR	Aug 2012

Characteristics: ESCC No.	5205/026	5205/027	5205/028
$r_{DS(ON)}$ (mΩ) @ 25 ^{O}C	130	30	130
Maximum Ratings:			
I_{DS} (A)	12.4	54	12.4
V_{DS} (V) max.	250	250	100
V_{GS} (V) max.	± 20	± 20	± 20
P_{tot} (W)	75	250	75
$R_{th(j-c)}$ (^{O}C/W)	1.66	0.5	1.66
Package:	SMD0.5	SMD2	SMD0.5

Operating Temperature Range (°C): T_{op} = - 55 to +150

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TRANSISTORS,
POWER, MOSFET, N-CHANNEL,
BASED ON TYPE BUY **CS***

Current validity of Qualification		Page
Certificate	Valid Until	12-05
319	August 2014	003-2

Types covered by similarity:

Variants 01 to 08 are qualified.

Remarks:

Procurement Specifications	Manufacturer
Generic ESCC 5010 Detail ESCC 5611/006	Infineon Technologies AG Neubiberg Germany

Nature of Approval	Supervising Authority	Date
Qualification	DARA	Jun 1996
Extension	DLR	Jan 2000
Extension	DLR	Nov 2004
Requalification	DLR	Mar 2008
Requalification	DLR	Nov 2010
Extension	DLR	Mar 2012

Characteristics for BFY 193

V_{CEO} (V) max.		12	
V_{CBO} (V)max.		20	
h_{FE} min/max.		50/175	@ V_{CE} = 8.0 V, I_C = 30mA
NF (dB) max.	@ 2 GHz	2.9	@ V_{CE} = 5.0 V, I_C = 15mA
MAG/MSG (dB) min.	@ 2 GHz	12.5	@ V_{CE} = 5.0 V, I_C = 40mA
f_T (GHz) min.	@ 500 MHz	6.5	@ V_{CE} = 5.0 V, I_C = 40mA

Package: " Micro-X1"

Total Power Dissipation (P_{tot}) = 580 mW

Operating Temperature Range (°C): T_{op} = - 65 to +200

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TRANSISTORS,

MICROWAVE, SMALL SIGNAL, BIPOLAR,

BASED ON TYPE BFY 193

Current validity of Qualification		Page
Certificate	Valid Until	12-10
230 E	March 2014	001

Types covered by similarity:

Variants 01, 02 and 03 are qualified.

Remarks:

Procurement Specifications	Manufacturer
Generic ESCC 5010 Detail ESCC 5611/008	Infineon Technologies AG Neubiberg Germany

Nature of Approval	Supervising Authority	Date
Qualification	DARA	Jun 1997
Extension	DLR	Jan 2000
Extension	DLR	Dec 2003
Requalification	DLR	Mar 2008
Requalification	DLR	Nov 2010
Extension	DLR	Mar 2012

Characteristics for BFY 450

V_{CEO} (V) max.		4.5	
V_{CBO} (V)max.		15	
I_C (mA) max.		100	
I_B (mA) max.		10	
h_{FE} min/max.		50/150	@ V_{CE} = 1.0 V, I_C = 20mA
NF (dB) max.	@ 1.8 GHz	2.0	@ V_{CE} = 2.0 V, I_C = 10mA
f_T (GHz) min.	@ 1.0 GHz	18	@ V_{CE} = 3.0 V, I_C = 90mA

Package: “Micro-X”

Total Power Dissipation (P_{tot}) = 450 mW

Operating Temperature Range (°C): T_{op} = - 65 to +175

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TRANSISTORS,

MICROWAVE, SMALL SIGNAL, BIPOLAR,

BASED ON TYPE BFY 450

Current validity of Qualification		Page
Certificate	Valid Until	12-10
245 E	March 2014	002

Types covered by similarity: Variants 01, 02 and 03 are qualified.			Remarks: -		
Procurement Specifications		Manufacturer	Nature of Approval	Supervising Authority	Date
Generic ESCC 5010 Detail ESCC 5611/009		Infineon Technologies AG Neubiberg Germany	Qualification	DLR	Sep 2012
Characteristics for BFY 640	Variant 03				
V_{CEO} (V) max.		4.0			
V_{CBO} (V) max.		13			
I_C (mA) max.		50.0			
I_B (mA) max.		3.0			
h_{FE} min/max		135/250 @ V_{ce}=3V & I_C=30mA			
MSG/MAG min (dB)	@ 1.8GHz	23 @V_{ce}=3V & I_C= 30mA			
	@ 6.0 GHz	12 V_{ce}=3V & I_C= 30mA			
NF_{max} (dB)	@ 1.8 GHz	< 0.8 @ V_{ce}=3V & I_C=5mA			
NF_{max} (dB)	@ 6.0 GHz	< 1.4 @ V_{ce}=3V & I_C=5mA			
Package: “Micro-X”					
Total Power Dissipation (P_{tot}) max. = 200 mW					
Operating Temperature Range (°C): T_{op} = - 65 to +175					

		Current validity of Qualification		Page
ESCC European Space Components Coordination QPL	TRANSISTORS, MICROWAVE, SMALL SIGNAL, BIPOLAR, BASED ON TYPE BFY 640	Certificate	Valid Until	12-10
		320	September 2014	003

Types covered by similarity: Variants 01, 02, 03 and 04 are qualified.		Remarks:		
Procurement Specifications	**Manufacturer**	**Nature of Approval**	**Supervising Authority**	**Date**
Generic ESCC 5010 Detail ESCC 5611/010	Infineon Technologies AG Neubiberg Germany	Qualification	DLR	Sep 2012

Characteristics for BFY 650B Variant 04

V_{CEO} (V) max.		4.0
V_{CBO} (V) max.		13
I_C (mA) max.		150
I_B (mA) max.		10
h_{FE} min/max		100/250 @ V_{CE}=3V & I_C=80mA
MSG/MAG min (dB)	@1.8 GHz	18 @ V_{CE}=3V & I_C=80mA
Pout (dBm)	@ 1.8 GHz	16

Package: “Micro-X”

Total Power Dissipation (P_{tot}) max. = 600 mW

Operating Temperature Range (°C): T_{op} = - 65 to +175

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TRANSISTORS,

MICROWAVE, SMALL SIGNAL, BIPOLAR,

BASED ON TYPES BFY 640B and BFY650B

Current validity of Qualification		Page
Certificate	Valid Until	12-10
321	September 2014	004

Types covered by similarity:	Remarks:

Procurement Specifications	Manufacturer	Nature of Approval	Supervising Authority	Date
Generic ESCC 5010 Detail ESCC 5611/011	Infineon Technologies AG Neubiberg Germany	Qualification	DLR	Sep 2012

Characteristics for BFY 740B	Variant 01	
V_{CEO} (V) max.		4.0
V_{CBO} (V) max.		13
I_C (mA) max.		30.0
I_B (mA) max.		3.0
h_{FE} min/max		185/380 @V_{CE}=3V & I_C=20mA
MSG/MAG min (dB)	@ 1.8 GHz	24 @V_{CE}=3V & I_C=20mA
MSG/MAG min (dB)	@ 6.0 GHz	17 @V_{CE}=3V & I_C=20mA
NF_{max} (dB)	@ 1.8 GHz	≤ 0.75 @V_{CE}=3V & I_C=8mA
NF_{max} (dB)	@ 6.0 GHz	≤ 1.15 @V_{CE}=3V & I_C=8mA

Package: “Micro-X”

Total Power Dissipation (P_{tot}) max. = 120 mW

Operating Temperature Range (°C): T_{op} = - 65 to +175

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TRANSISTORS,

MICROWAVE, SMALL SIGNAL, BIPOLAR,

BASED ON TYPE BFY 740B

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322	September 2014	005

Types covered by similarity:

Remarks:

Procurement Specifications	Manufacturer
Generic ESCC 5010 Detail ESCC 5613/004	Infineon Technologies AG Neubiberg Germany

Nature of Approval	Supervising Authority	Date
Qualification	DARA	Apr 1994
Extension	DLR	Jan 2000
Extension	DLR	Dec 2003
Requalification	DLR	Mar 2008
Requalification	DLR	Nov 2010
Extension	DLR	Mar 2012

Characteristics (@ 12 GHz):

All variants are qualified		NFmin. (dB)	Ga (dB)
5613/004 pseudo-morphic	variants 1 & 3 Variants 2 & 4	0.8 1.0	11 10.5

Package: Micro-X

Total Power Dissipation (P_{tot}) = 200 mW derated from $^{+}31$ °C T_{amb}

Operating Temperature Range (°C): T_{stg} = $^{-}$65 to $^{+}$150

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TRANSISTORS,

HIGH ELECTRON MOBILITY, GALLIUM ARSENIDE, MICROWAVE, LOW NOISE, SMALL SIGNAL,

BASED ON TYPE CFY 67

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Certificate	Valid Until	12-16
213 E	March 2014	001