EFC6605R

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N-Channel Power MOSFET 20V, 10A, 13.3mΩ, Dual EFCP

Features

- 2.5V drive
- Protection diode in
- Halogen free compliance

- Common-drain type
- 2KV ESD HBM

Applications

Specifications

Halogen free compliance	2		_
Applications • Lithium-ion battery char	ging and dischar	ging switch	SIGN
Specifications Absolute Maximum Rati	nge of To - 25%	ENDI	
Parameter	Symbol	C ons Value	Unit
Source to Source Voltage	V _{SSS}	20	V
Gate to Source Voltage	V _{GSS}	(<u>1</u> 0	V
Source Current (DC)	IS	10	Α
Source Current (Pulse)	I _{SP}	PW≤10, duty cy. 1% 60	Α
Total Dissipation	PT	ne. nd on ceramic substrate (5000 m n°x J.8mm) 1.6	W
Junction Temperature	T	150	°C
Storage Temperature	g	-55 to +150	°C

Stresses exceeding those listed in Maximum Ratings table may damage the derice. It any of these limits are exceeded, device functionality should not be assumed, damage may occur and r affects

Therm 'Pes tar '

ara, 'er	Symbal	Value	Unit
Juncti to Am ent	г _. өла	78.1	°C /W
When moun ceramic slib. trate (5000mm ² ×0.8mm)	' C		

Electrical Cnaracteristics at Ta = 25°C

Parameter	Symbol	Conditions		Value			Lloit
Falameter	Symbol	Conditi	Conditions		typ	max	Onit
Source to Source Breakdown Voltage	V(BR)SSS	IS=1mA, VGS=0V	Test Circuit 1	20			V
Zero-Gate Voltage Source Current	ISSS	V _{SS} =20V, V _{GS} =0V	Test Circuit 1			1	μΑ
Gate to Source Leakage Current	IGSS	VGS=±8V, VSS=0V	Test Circuit 2			±1.0	μΑ
Gate Threshold Voltage	VGS(th)	VSS10V, IS=1mA	Test Circuit 3	0.5		1.3	V
Forward Transconductance	9FS	V _{SS} =10V, I _S =3A	Test Circuit 4		11.4		S
	RSS(on)1	IS=3A, VGS=4.5V	Test Circuit 5	8.8	11.1	13.3	mΩ
	RSS(on)2	IS=3A, VGS=4.0V	Test Circuit 5	9.1	11.4	13.7	μΑ μΑ V S
Static Source to Source On-State Resistance	RSS(on)3	IS=3A, VGS=3.8V	Test Circuit 5	9.3	11.6	13.9	mΩ
Resistance	RSS(on)4	IS=3A, VGS=3.1V	Test Circuit 5	10.0	12.5	15.6	mΩ
	RSS(on)5	IS=3A, VGS=2.5V	Test Circuit 5	11.1	13.9	17.4	mΩ

Continued on next page.

ORDERING INFORMATION

See detailed ordering and shipping information on page 2 of this data sheet.

EFC6605R

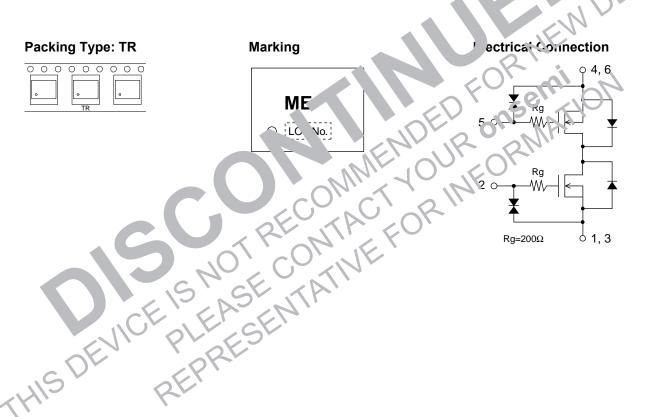
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D	0	Value			11.5	
Parameter	Symbol	Conditions	min	typ	max	Unit
Turn-ON Delay Time	t _d (on)			154		ns
Rise Time	t _r	\\- = 40\\ \\- = 45\\ \ = 20 \\ Test Circuit C		678		ns
Turn-OFF Delay Time	t _d (off)	VSS=10V, VGS=4.5V, IS=3A Test Circuit 6		44400		ns
Fall Time	t _f			60800		ns
Total Gate Charge	Qg	V _{SS} =10V, V _{GS} =4.5V, I _S =10A Test Circuit 7		19.8		nC
Forward Source to Source Voltage	V _F (S-S)	I _S =3A, V _{GS} =0V Test Circuit 8		0.75	1.2	V

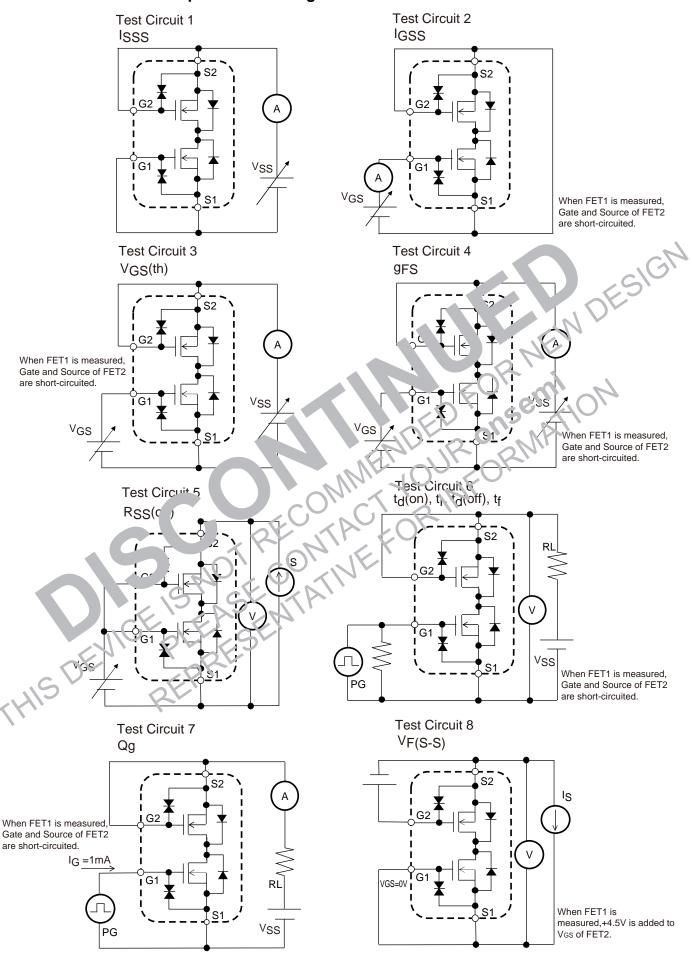
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

Ordering & Package Information

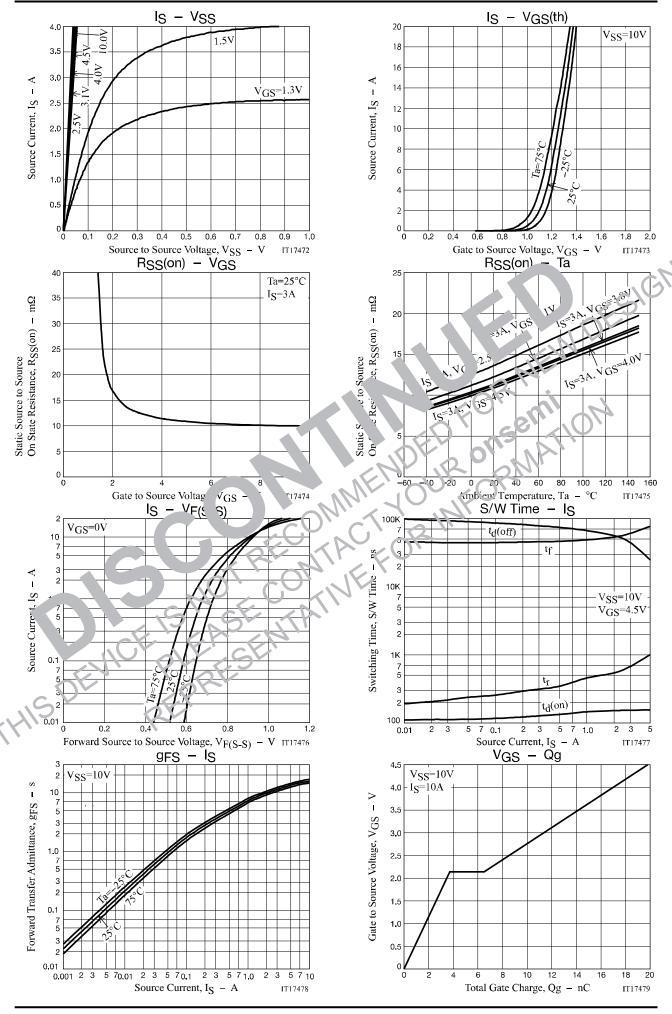
Device	Package	Shipping	note
EFC6605R-TR	EFCP	5,000 pcs. / reel	Pb-Free and Halogen Free

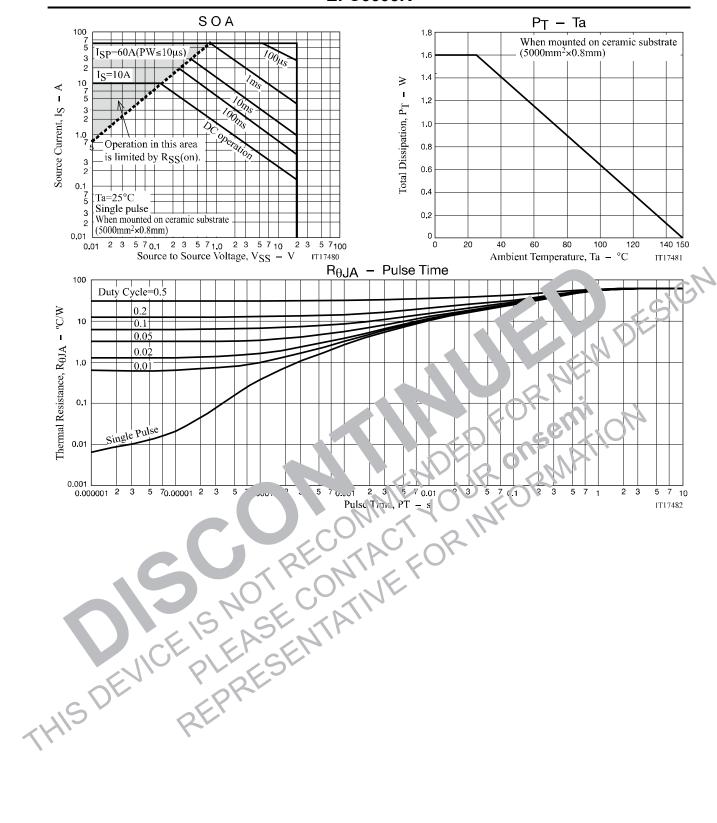


Test circuits are example of measuring FET1 side



When FET2 is measured, the position of FET1 and FET2 is switched.

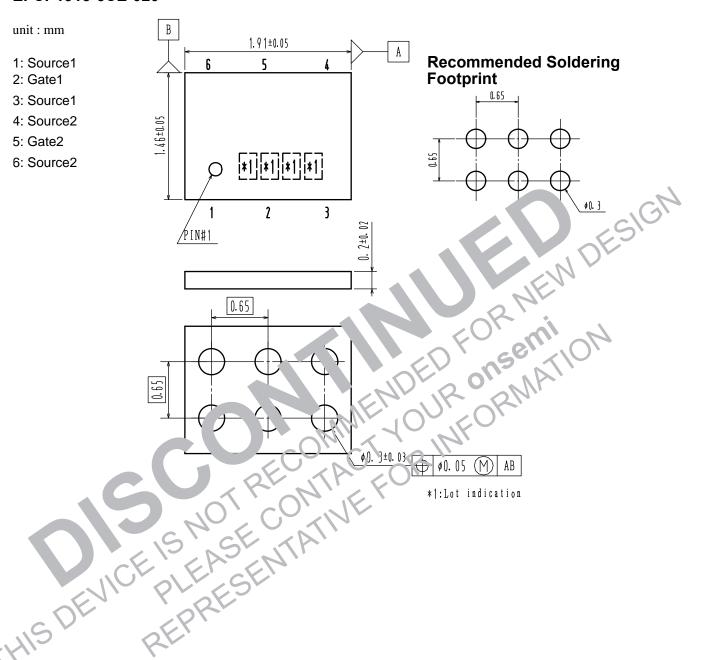




Package Dimensions

EFC6605R-TR

EFCP1915-6CE-020



Note on usage : Since the EFC6605R is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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