

EFC4615R

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Source-to-Source Breakdown Voltage	$V_{(BR)SSS}$	$I_S=1mA$, $V_{GS}=0V$ Test Circuit 1	24			V
Zero-Gate Voltage Source Current	I_{SSS}	$V_{SS}=20V$, $V_{GS}=0V$ Test Circuit 1			1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 8V$, $V_{SS}=0V$ Test Circuit 2			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{SS}=10V$, $I_S=1mA$ Test Circuit 3	0.5		1.3	V
Forward Transfer Admittance	$ y_{fs} $	$V_{SS}=10V$, $I_S=3A$ Test Circuit 4		5.4		S
Static Source-to-Source On-State Resistance	$R_{SS(on)1}$	$I_S=3A$, $V_{GS}=4.5V$ Test Circuit 5	19	27	31	$m\Omega$
	$R_{SS(on)2}$	$I_S=3A$, $V_{GS}=4.0V$ Test Circuit 5	21	28	33	$m\Omega$
	$R_{SS(on)3}$	$I_S=3A$, $V_{GS}=3.1V$ Test Circuit 5	24	33	44	$m\Omega$
	$R_{SS(on)4}$	$I_S=3A$, $V_{GS}=2.5V$ Test Circuit 5	28	39	52	$m\Omega$
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit. Test Circuit 7		13		ns
Rise Time	t_r			235		ns
Turn-OFF Delay Time	$t_{d(off)}$			335		ns
Fall Time	t_f			360		ns
Total Gate Charge	Q_g	$V_{SS}=10V$, $V_{GS}=4.5V$, $I_S=6A$		8.8		nC
Forward Source-to-Source Voltage	$V_{F(S-S)}$	$I_S=6A$, $V_{GS}=0V$ Test Circuit 6		1	1.2	V

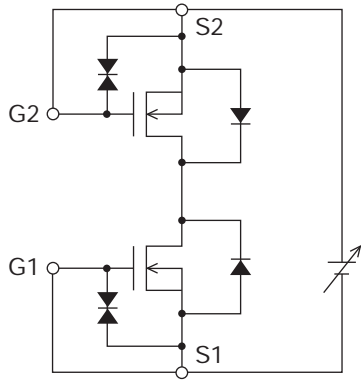
Ordering Information

Device	Package	Shipping	memo
EFC4615R-TR	EFCP	5,000pcs./reel	Pb Free and Halogen Free

Test circuits are example of measuring FET1 side

Test Circuit 1

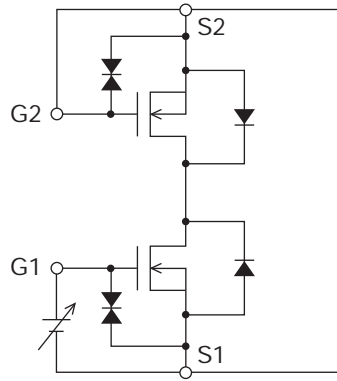
V_{SSS} / I_{SSS}



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Test Circuit 2

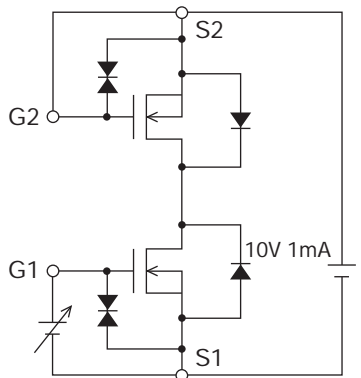
$I_{GSS}(+) / (-)$



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Test Circuit 3

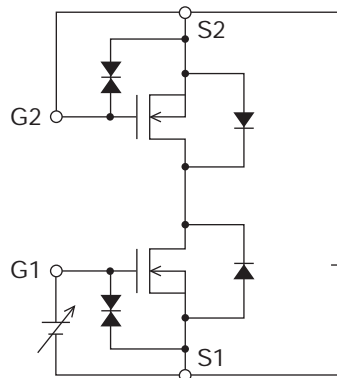
$V_{GS(off)}$



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Test Circuit 4

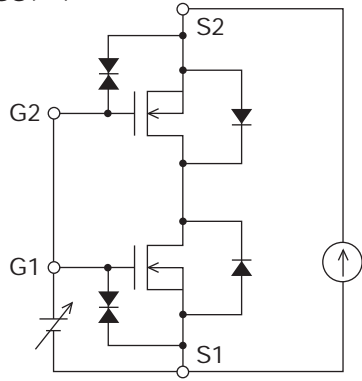
$|y_{fs}|$



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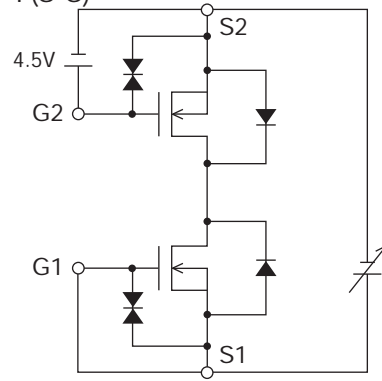
* Note: Connect the measurement terminal reversely if you want to measure the FET2 side.

Test Circuit 5
 $R_{SS(on)}$



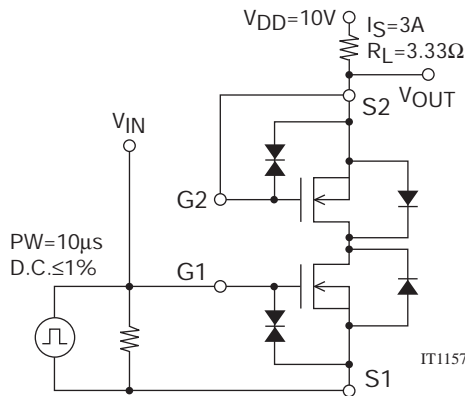
IT11569

Test Circuit 6
 $V_F(S-S)$



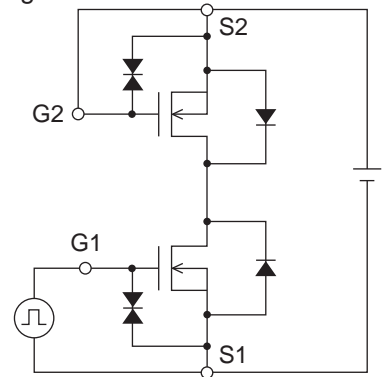
IT11570

Test Circuit 7
 $t_d(on)$, t_r , $t_d(off)$, t_f



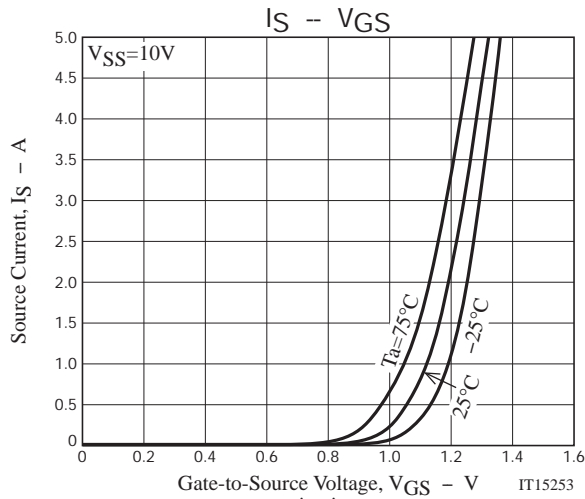
IT11571

Test Circuit 8
 Q_g

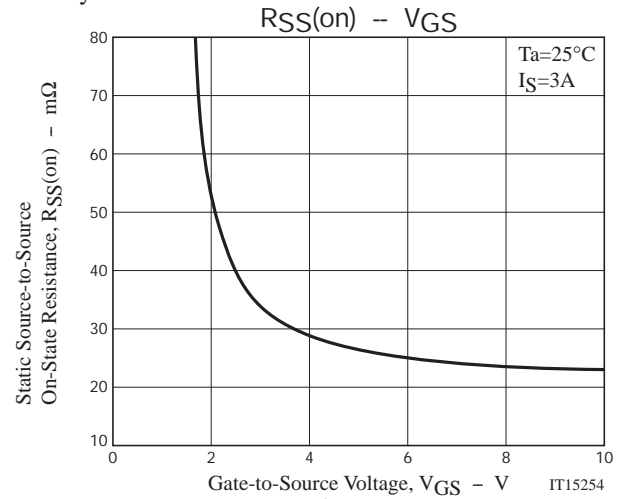


IT15409

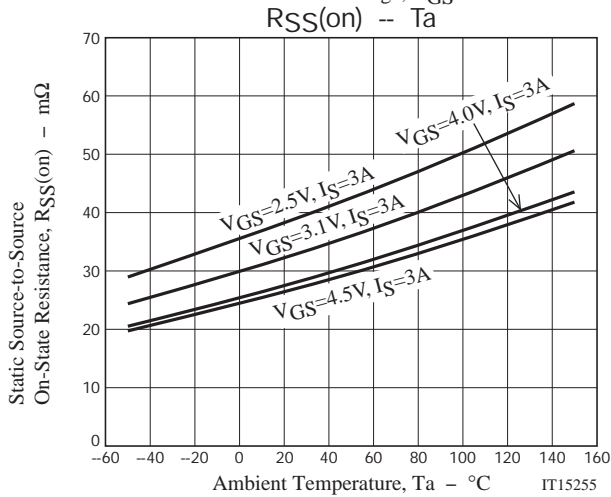
* Note: Connect the measurement terminal reversely if you want to measure the FET2 side.



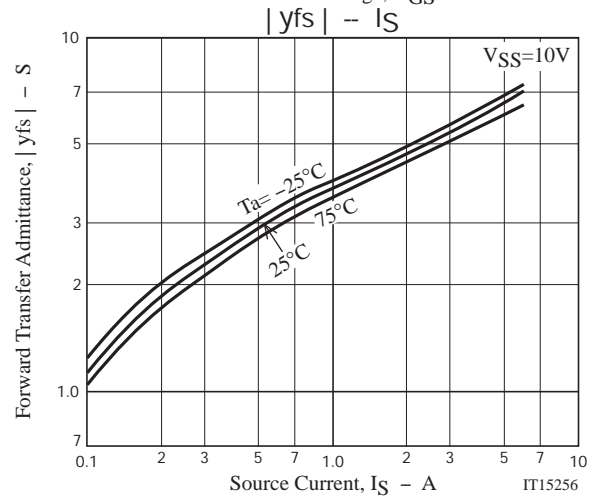
IT15253



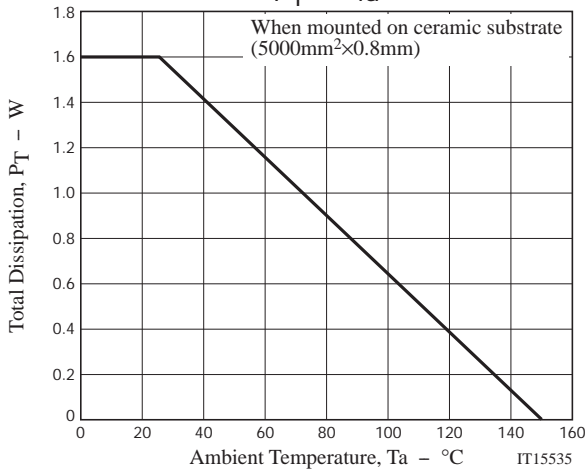
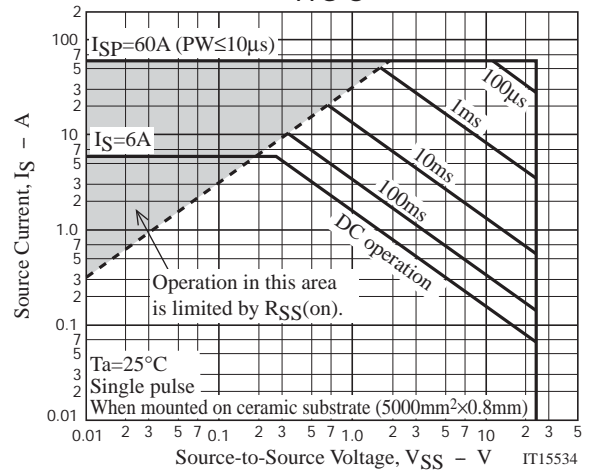
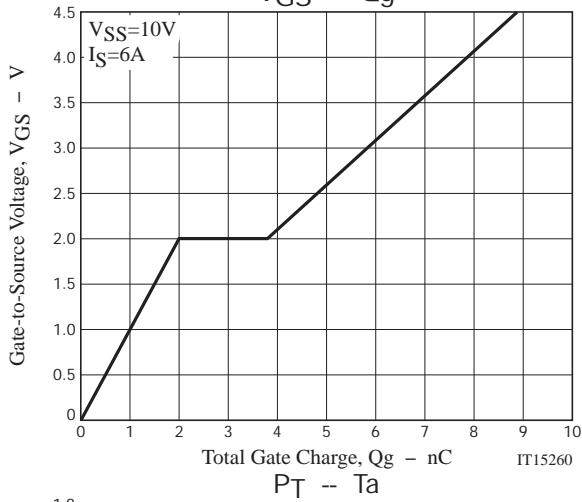
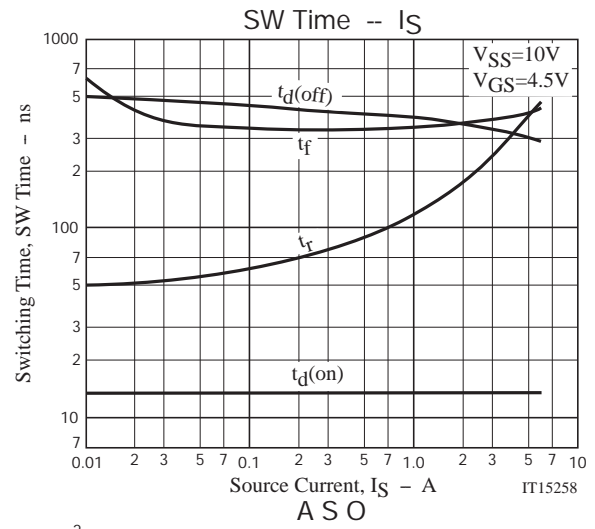
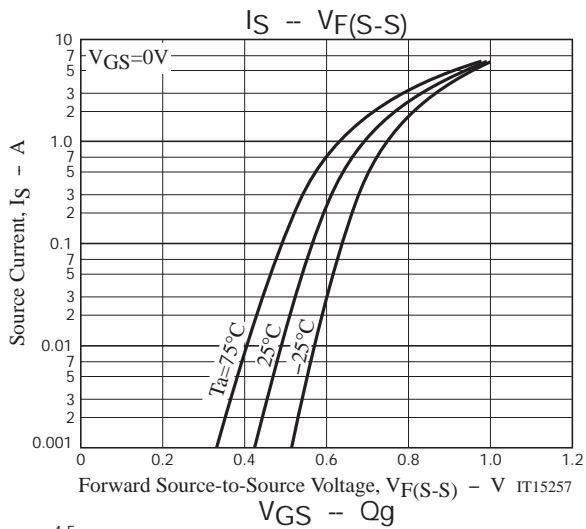
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IT15255



IT15256



EFC4615R

Taping Specification

EFC4615R-TR

1. Packing Format

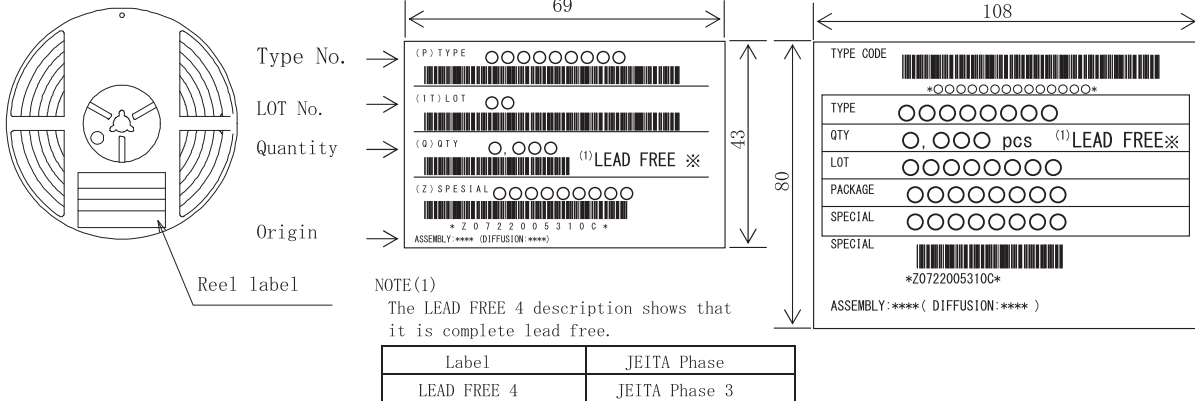
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
EFCP1515-4CC-037	CARR (165X055)	5, 000	25, 000	150, 000	5 reels contained Dimensions :mm (external) 183 X 72 X 185	6 inner boxes contained Dimensions :mm (external) 440 X 195 X 210

Packing method

Reel label, Inner box label
(unit: mm)

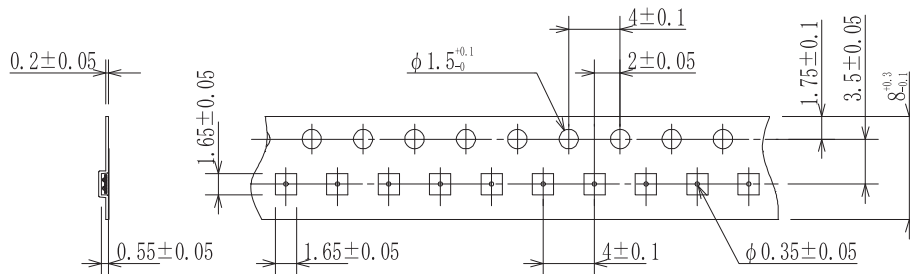
Outer box label

It is a label at the time of factory shipments.
The form of a label may change in physical
distribution process.

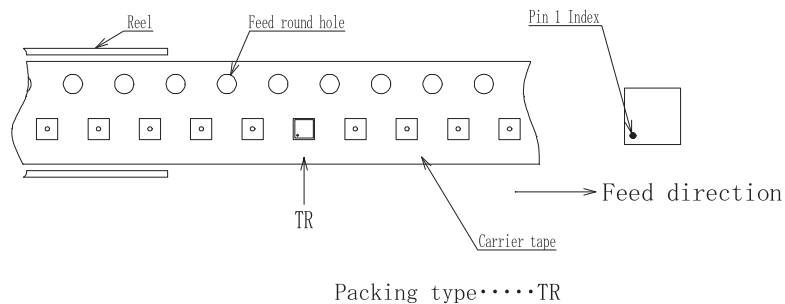


2. Taping configuration

2-1. Carrier tape size (unit: mm)

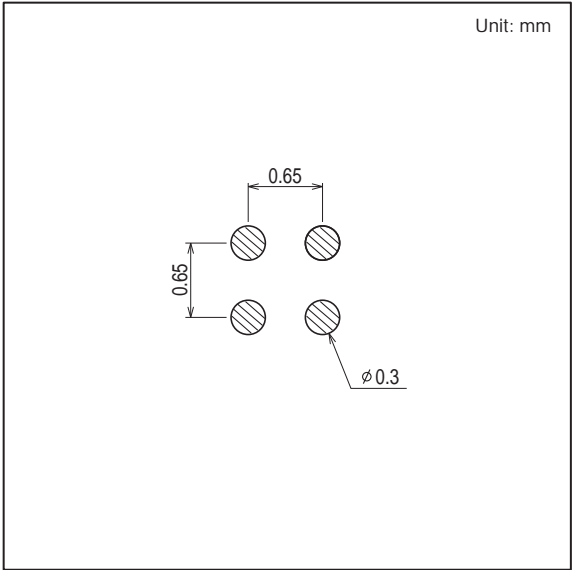
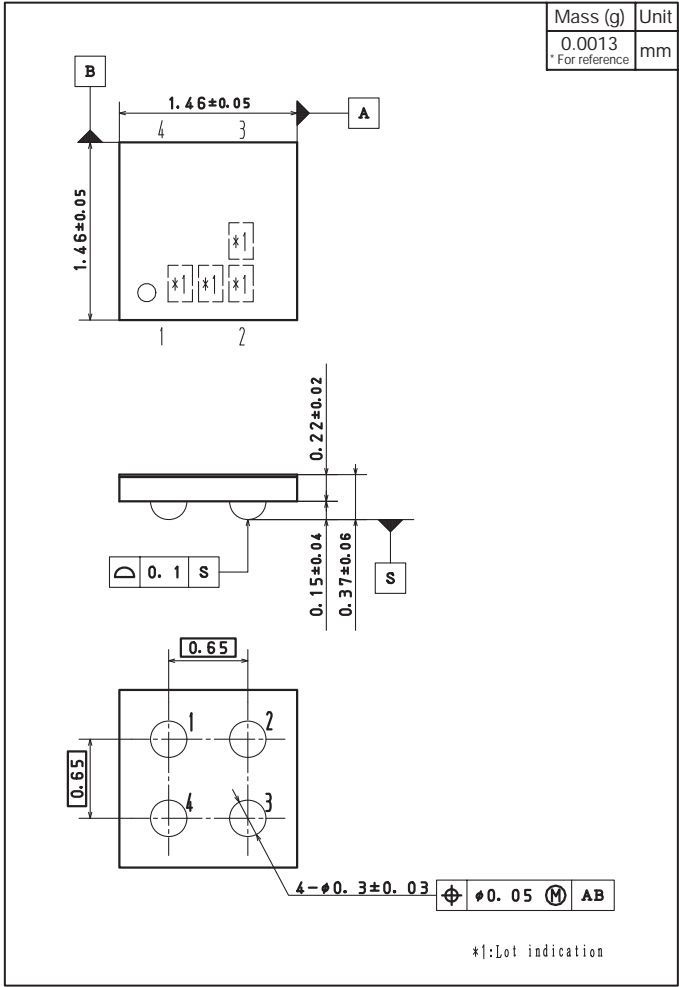


2-2. Device placement direction



Outline Drawing
EFC4615R-TR

Land Pattern Example



Note on usage : Since the EFC4615R is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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