

Field Stop Trench IGBT

Quick Reference for Field Stop Trench IGBT Standard type

Series	V _{CES} (V)	I _C (A)	Package							
			TO-247N				TO-3PFM			
			IGBT Single		Built-in FRD		IGBT Single		Built-in FRD	
RGTH series (High speed switching)	650	20	RGTH40TS65	1	RGTH40TS65D	6	RGTH40TK65	11	RGTH40TK65D	16
		25	RGTH50TS65	2	RGTH50TS65D	7	RGTH50TK65	12	RGTH50TK65D	17
		30	RGTH60TS65	3	RGTH60TS65D	8	RGTH60TK65	13	RGTH60TK65D	18
		40	RGTH80TS65	4	RGTH80TS65D	9	RGTH80TK65	14	RGTH80TK65D	19
		50	RGTH00TS65	5	RGTH00TS65D	10	RGTH00TK65	15	RGTH00TK65D	20
RGW series (High speed fast switching)	650	30	RGW60TS65	21	RGW60TS65D	24	RGW60TK65	27	RGW60TK65D	30
		40	RGW80TS65	22	RGW80TS65D	25	RGW80TK65	28	RGW80TK65D RGW80TK65E	31 32
		50	RGW00TS65	23	RGW00TS65D	26	RGW00TK65	29	RGW00TK65D	33
RGCL series (Low V _{CE(sat)})	600	30	RGCL60TS60	34	RGCL60TS60D	36	RGCL60TK60	38	RGCL60TK60D	40
		40	RGCL80TS60	35	RGCL80TS60D	37	RGCL80TK60	39	RGCL80TK60D	41
RGCL series (RC-IGBT)	1,800	40			RGCL80TS60D	42				

Note: Package is JEDEC code.

SCSOA Guaranteed type

Series	V _{CES} (V)	I _C (A)	Package														
			TO-252		TO-263S (LPDS)/TO-262		TO-263L (LPDL)		TO-220NFM		TO-247N		TO-3PFM				
			Built-in FRD	Built-in FRD	IGBT Single	Built-in FRD	Built-in FRD	IGBT Single	Built-in FRD	IGBT Single	Built-in FRD	IGBT Single	Built-in FRD				
RGTV series (tsc 2μs Min)	650	30								RGTV60TS65	43	RGTV60TS65D	46	RGTV60TK65	49	RGTV60TK65D	51
		50								RGTV00TS65	44	RGTV00TS65D	47	RGTV00TK65	50	RGTV00TK65D	52
		80								RGTVX6TS65	45	New RGTVX6TS65D	48				
RGT series (tsc 5μs Min)	650	4	RGTB8M65D	53	RGTB8NS65D	55		RGTB8NL65D	61	RGTB8TM65D	66						
		8	RGTV16M65D	54	RGTV16NS65D	56		RGTV16NL65D	62	RGTV16TM65D	67						
		10					New RGT20NL65	60		New RGT20TM65D	68						
		15			RGTV30NS65D	57		RGTV30NL65D	63	RGTV30TM65D	69						
		20			RGTV40NS65D	58		RGTV40NL65D	64	RGTV40TM65D	70		RGTV40TS65D	72			
		25			RGTV50NS65D	59		RGTV50NL65D	65	RGTV50TM65D	71		RGTV50TS65D	73			
		30											RGTV60TS65D	74			
		40											RGTV80TS65D	75			
											RGTV00TS65D	76					
RGS series (tsc 8μs Min)	650	30									New RGS80TS65HR	77	RGS80TS65DHR	82			
		40									New RGS80TS65HR	78	RGS80TS65DHR	83			
		50										New RGS00TS65HR	79	RGS00TS65DHR	84		
											RGS00TS65EHR	85					
RGS series (tsc 10μs Min)	1,200	25									New RGS80TSX2HR	80	New RGS50TSX2DHR	86			
		40									New RGS80TSX2HR	81	New RGS0TSX2DHR	87			

Note: Package is JEDEC code. (): ROHM Packages.

: Under Development

Field Stop Trench IGBT

No.	Part No.	V _{CES} (V)	I _c (A)		P _D (W)	V _{CE(sat)} Typ (V)	I _c (A)	tsc Min (μsec)	I _F (Diode) (A)		V _F (Diode) Typ (V)	I _F (A)	Package	Equivalent Circuit Diagram	Automotive Grade AEC-Q101
			T _c =25°C	T _c =100°C					T _c =25°C	T _c =100°C					
1	RGTH40TS65	650	40	20	144	1.6	20	—	—	—	—	TO-247N		—	
2	RGTH50TS65	650	50	25	174	1.6	25	—	—	—	—			—	
3	RGTH60TS65	650	58	30	194	1.6	30	—	—	—	—			—	
4	RGTH80TS65	650	70	40	234	1.6	40	—	—	—	—			—	
5	RGTH00TS65	650	85	50	277	1.6	50	—	—	—	—			—	
6	RGTH40TS65D	650	40	20	144	1.6	20	—	35	20	1.45		20		—
7	RGTH50TS65D	650	50	25	174	1.6	25	—	35	20	1.45		20		—
8	RGTH60TS65D	650	58	30	194	1.6	30	—	40	20	1.35		20		—
9	RGTH80TS65D	650	70	40	234	1.6	40	—	40	20	1.35		20		—
10	RGTH00TS65D	650	85	50	277	1.6	50	—	50	30	1.45		30		—
11	RGTH40TK65	650	23	14	56	1.6	20	—	—	—	—	TO-3PFM		—	
12	RGTH50TK65	650	26	16	59	1.6	25	—	—	—	—			—	
13	RGTH60TK65	650	28	17	61	1.6	30	—	—	—	—			—	
14	RGTH80TK65	650	31	19	66	1.6	40	—	—	—	—			—	
15	RGTH00TK65	650	35	21	72	1.6	50	—	—	—	—			—	
16	RGTH40TK65D	650	23	14	56	1.6	20	—	26	15	1.45		20		—
17	RGTH50TK65D	650	26	16	59	1.6	25	—	26	15	1.45		20		—
18	RGTH60TK65D	650	28	17	61	1.6	30	—	28	16	1.35		20		—
19	RGTH80TK65D	650	31	19	66	1.6	40	—	28	16	1.35		20		—
20	RGTH00TK65D	650	35	21	72	1.6	50	—	34	19	1.45		30		—
21	RGW60TS65	650	60	30	178	1.5	30	—	—	—	—	TO-247N		—	
22	RGW80TS65	650	78	40	214	1.5	40	—	—	—	—			—	
23	RGW00TS65	650	96	50	254	1.5	50	—	—	—	—			—	
24	RGW60TS65D	650	60	30	178	1.5	30	—	40	20	1.45		20		—
25	RGW80TS65D	650	78	40	214	1.5	40	—	40	20	1.45		20		—
26	RGW00TS65D	650	96	50	254	1.5	50	—	56	30	1.45		30		—
27	RGW60TK65	650	33	20	72	1.5	30	—	—	—	—	TO-3PFM		—	
28	RGW80TK65	650	39	23	81	1.5	40	—	—	—	—			—	
29	RGW00TK65	650	45	26	89	1.5	50	—	—	—	—			—	
30	RGW60TK65D	650	33	20	72	1.5	30	—	27	16	1.45		20		—
31	RGW80TK65D	650	39	23	81	1.5	40	—	27	16	1.45		20		—
32	RGW80TK65E	650	39	23	81	1.5	40	—	46	26	1.45		50		—
33	RGW00TK65D	650	45	26	89	1.5	50	—	34	19	1.45	30	—		
34	RGCL60TS60	600	48	30	111	1.4	30	—	—	—	—	TO-247N		—	
35	RGCL80TS60	600	65	40	148	1.4	40	—	—	—	—			—	
36	RGCL60TS60D	600	48	30	111	1.4	30	—	35	20	1.45		20		—
37	RGCL80TS60D	600	65	40	148	1.4	40	—	35	20	1.45		20		—
38	RGCL60TK60	600	30	18	54	1.4	30	—	—	—	—	TO-3PFM		—	
39	RGCL80TK60	600	35	21	57	1.4	40	—	—	—	—			—	
40	RGCL60TK60D	600	30	18	54	1.4	30	—	26	15	1.45		20		—
41	RGCL80TK60D	600	35	21	57	1.4	40	—	26	15	1.45		20		—
42	RGC80TSX8R	1,800	80	40	535	2.2	40	—	80	40	1.8	40	TO-247N		—

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*Built-in Fast Recovery Diodes

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No.	Part No.	V _{CES} (V)	I _C (A)		P _D (W)	V _{CE(sat)} Typ (V)	I _C (A)	tsc Min (μsec)	I _F (Diode) (A)		V _F (Diode) Typ (V)	I _F (A)	Package	Equivalent Circuit Diagram	Automotive Grade AEC-Q101
			Tc=25°C	Tc=100°C					Tc=25°C	Tc=100°C					
43	RGTV60TS65	650	60	30	194	1.5	30	2	—	—	—	—	TO-247N		—
44	RGTV00TS65	650	95	50	276	1.5	50	2	—	—	—	—			—
45	RGTVX6TS65	650	144	80	404	1.5	80	2	—	—	—	—			—
46	RGTV60TS65D	650	60	30	194	1.5	30	2	56	30	1.45	30			—
47	RGTV00TS65D	650	95	50	276	1.5	50	2	84	50	1.45	50			—
48	New RGTVX6TS65D	650	144	80	404	1.5	80	2	127	80	1.45	80			—
49	RGTV60TK65	650	33	20	76	1.5	30	2	—	—	—	—	TO-3PFM		—
50	RGTV00TK65	650	45	26	94	1.5	50	2	—	—	—	—			—
51	RGTV60TK65D	650	33	20	76	1.5	30	2	34	19	1.45	30			—
52	RGTV00TK65D	650	45	26	94	1.5	50	2	46	26	1.45	50	—		
53	RGT8BM65D	650	8	4	62	1.65	4	5	7	4	1.45	4	TO-252		—
54	RGT16BM65D	650	16	8	94	1.65	8	5	16	8	1.4	8			—
55	RGT8NS65D	650	8	4	65	1.65	4	5	7	4	1.45	4	TO-263S (LPDS)/ TO-262		—
56	RGT16NS65D	650	16	8	94	1.65	8	5	16	8	1.4	8			—
57	RGT30NS65D	650	30	15	133	1.65	15	5	26	15	1.5	15			—
58	RGT40NS65D	650	40	20	161	1.65	20	5	35	20	1.45	20			—
59	RGT50NS65D	650	48	25	194	1.65	25	5	35	20	1.45	20			—
60	New RGT20NL65	650	20	10	106	1.65	10	5	—	—	—	—	TO-263L (LPDL)		—
61	RGT8NL65D	650	8	4	65	1.65	4	5	7	4	1.45	4			—
62	RGT16NL65D	650	16	8	94	1.65	8	5	16	8	1.4	8			—
63	RGT30NL65D	650	30	15	133	1.65	15	5	26	15	1.5	15			—
64	RGT40NL65D	650	40	20	161	1.65	20	5	35	20	1.45	20			—
65	RGT50NL65D	650	48	25	194	1.65	25	5	35	20	1.45	20	—		
66	RGT8TM65D	650	5	3	16	1.65	4	5	5	3	1.45	4	TO-220NFM		—
67	RGT16TM65D	650	9	5	22	1.65	8	5	13	7	1.4	8			—
68	New RGT20TM65D	650	10	6	25	1.65	10	5	13	7	1.4	8			—
69	RGT30TM65D	650	14	8	32	1.65	15	5	17	9	1.5	15			—
70	RGT40TM65D	650	17	10	39	1.65	20	5	22	13	1.45	20			—
71	RGT50TM65D	650	21	13	47	1.65	25	5	22	13	1.45	20			—
72	RGT40TS65D	650	40	20	144	1.65	20	5	35	20	1.45	20			—
73	RGT50TS65D	650	48	25	174	1.65	25	5	35	20	1.45	20			—
74	RGT60TS65D	650	55	30	194	1.65	30	5	40	20	1.35	20			—
75	RGT80TS65D	650	70	40	234	1.65	40	5	40	20	1.35	20			—
76	RGT00TS65D	650	85	50	277	1.65	50	5	50	30	1.45	30	—		
77	New RGS60TS65HR	650	56	30	223	1.65	30	8	—	—	—	—	TO-247N		YES
78	New RGS80TS65HR	650	73	40	272	1.65	40	8	—	—	—	—			YES
79	New RGS00TS65HR	650	88	50	326	1.65	50	8	—	—	—	—			YES
80	New RGS50TSX2HR	1,200	50	25	395	1.7	25	10	—	—	—	—			YES
81	New RGS80TSX2HR	1,200	80	40	555	1.7	40	10	—	—	—	—			YES
82	RGS60TS65DHR	650	56	30	223	1.65	30	8	56	30	1.45	30			YES
83	RGS80TS65DHR	650	73	40	272	1.65	40	8	56	30	1.45	30			YES
84	RGS00TS65DHR	650	88	50	326	1.65	50	8	56	30	1.45	30			YES
85	RGS00TS65EHR	650	88	50	326	1.65	50	8	84	50	1.45	50			YES
86	New RGS50TSX2DHR	1,200	50	25	395	1.7	25	10	50	25	1.65	25			YES
87	New RGS80TSX2DHR	1,200	80	40	555	1.7	50	10	80	40	1.75	40	YES		

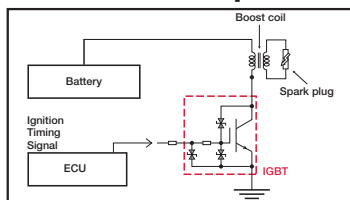
Note: Package is JEDEC code. (): ROHM Packages.

*Built-in Fast Recovery Diodes

IGBT

Ignition IGBT

Circuit Example for Ignition IGBT



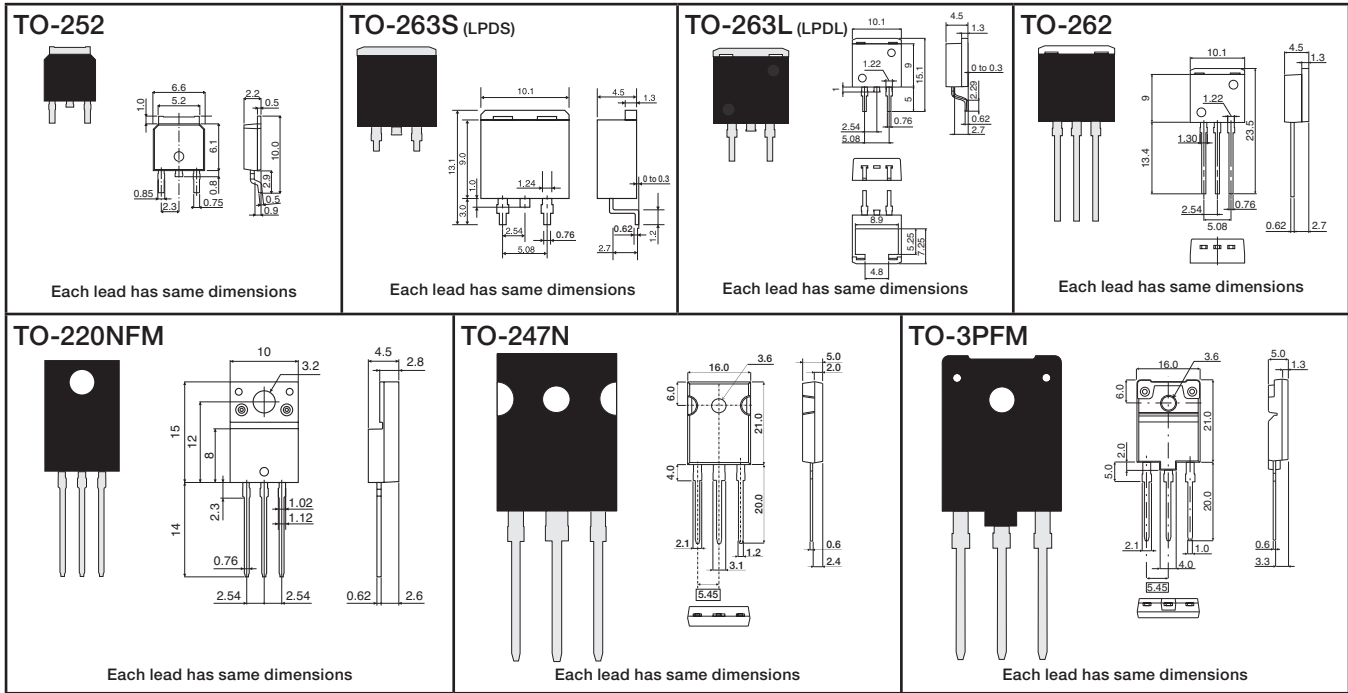
Ignition IGBT										
Part No.	V _{CES} (V)	V _{GES} (V)	I _C (A)	P _D (W)	E _{as} (mJ)	V _{CE(sat)} Typ (V)	Package	Equivalent Circuit Diagram	Automotive Grade AEC-Q101	
RGpz10BM40FH	430±30	±10	20	107	250	1.6	TO-252		YES	
RGpz30BM56HR	560±30	±10	30	166	300	1.4	TO-252		YES	
RGPR10BM40FH	430±30	±10	20	107	250	1.6	TO-252		YES	
RGPR20BM36HR	360±30	±10	20	107	250	1.6	TO-252		YES	
RGPR20NS43HR	430±30	±10	20	107	250	1.6	TO-263S (LPDS)		YES	
RGPR20NL43HR	430±30	±10	20	107	250	1.6	TO-263L (LPDL)		YES	
RGPR30BM56HR	560±30	±10	30	166	300	1.4	TO-252		YES	
RGPR30BM40HR	400±30	±10	30	125	300	1.6	TO-252		YES	
RGPR30NS40HR	400±30	±10	30	125	300	1.6	TO-263S (LPDS)		YES	
New RGPR50NL45HR	450±30	±10	45	187	500	1.6	TO-263L (LPDL)	YES		

Note: Package is JEDEC code. (): ROHM Packages.

: Under Development

Ignition IGBT

Dimensions (Unit: mm)



Note: Package is JEDEC code. (): ROHM Packages.

Product No. Explanation



IGBT

Series Name

$I_{c < T_c = 100^{\circ}C >}$

- ex. 8 → 4A
- 16 → 8A
- 30 → 15A
- 40 → 20A
- 00 → 50A

Package

- ex. BM → TO-252
- NS → TO-263S (LPDS)/
TO-262
- NL → TO-263L (LPDL)
- TM → TO-220NFM
- TS → TO-247N
- TK → TO-3PFM

V_{CEs}

- ex. 65 → 650V
- Fast Recovery Diodes
- ex. D → Built-in Fast Recovery Diodes
- Automotive Grade

Packaging type

Package	Code	Packaging Style	Basic Ordering Unit (pcs)
TO-252	TL	Embossed tape	2,500
TO-263S (LPDS)	TL	Embossed tape	1,000
TO-263L (LPDL)	TL	Embossed tape	1,000
TO-262	C9	Tube	50
TO-220NFM	C9	Tube	50
TO-247N	C11	Tube	30
TO-3PFM	C11	Tube	30

Note: Package is JEDEC code. (): ROHM Packages