

By Category PDF

Category IGBT

Power Devices




IGBT

Field Stop Trench IGBT ——— 139

Ignition IGBT ————— 142







Field Stop Trench IGBT

● Quick Reference for Field Stop Trench IGBT Standard type

Series	V _{CES} (V)	I _C (A)	Package									
												
			TO-247N		TO-247GE		TO-3PFM					
			IGBT Single	Built-in Diode*	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	20	RGW40TS65	21	RGW40TS65D	31			RGW40TK65	48	RGW40TK65D	53
		25	RGW50TS65	22	RGW50TS65D	32			RGW50TK65	49	RGW50TK65D	54
		30	RGW60TS65	23	RGW60TS65D	33			RGW60TK65	50	RGW60TK65D	55
			New RGW60TS65HR	24	New RGW60TS65DHR	34						
				New RGW60TS65EHR	35							
		39		New RGW60TS65CHR	45							
		40	RGW80TS65	25	RGW80TS65D	36			RGW80TK65	51	RGW80TK65D	56
			New RGW80TS65HR	26	New RGW80TS65DHR	37						
				New RGW80TS65EHR	38							
		48		New RGW80TS65CHR	46							
50	RGW00TS65	27	RGW00TS65D	39			RGW00TK65	52	RGW00TK65D	58		
	New RGW00TS65HR	28	New RGW00TS65DHR	40								
		New RGW00TS65EHR	41									
58		New RGW00TS65CHR	47									
75	RGWX5TS65	29	RGWX5TS65D	42								
	New RGWX5TS65HR	30	New RGWX5TS65DHR	43								
		New RGWX5TS65EHR	44									
RGCL series (Low V _{CE(sat)})	600	30	RGCL60TS60	59	RGCL60TS60D	61			RGCL60TK60	63	RGCL60TK60D	65
		40	RGCL80TS60	60	RGCL80TS60D	62			RGCL80TK60	64	RGCL80TK60D	66
RGC series (RC-IGBT)	1,800	40			RGC80TSX8R	67						

Note1: Package is JEDEC code.
 Note2: *RGW60TS65CHR, RGW80TS65CHR and RGW00TS65CHR are Built-in SiC Schottky Barrier Diode. The other products are Built-in Fast Recovery Diode.

SCSOA Guaranteed type

Series	V _{CES} (V)	I _C (A)	Package													
																
			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 2µsec Min)	650	30							RGTV60TS65	68	RGTV60TS65D	73	RGTV60TK65	78	RGTV60TK65D	81
		40							RGTV80TS65	69	RGTV80TS65D	74	RGTV80TK65	79	RGTV80TK65D	82
		50							RGTV00TS65	70	RGTV00TS65D	75	RGTV00TK65	80	RGTV00TK65D	83
		60							RGTVX2TS65	71	RGTVX2TS65D	76				
		80							RGTVX6TS65	72	RGTVX6TS65D	77				
RGT series (tsc 5µsec Min)	650	4	RGT8BM65D	84	RGT8NS65D	86		RGT8NL65D	93	RGT8TM65D	99					
		8	RGT16BM65D	85	RGT16NS65D	87		RGT16NL65D	94	RGT16TM65D	100					
		10			RGT20NS65D	88	RGT20NL65	92	RGT20NL65D	95	RGT20TM65D	101				
		15			RGT30NS65D	89		RGT30NL65D	96	RGT30TM65D	102					
		20			RGT40NS65D	90		RGT40NL65D	97	RGT40TM65D	103		RG40TS65D	105		
		25			RGT50NS65D	91		RGT50NL65D	98	RGT50TM65D	104		RG50TS65D	106		
		30											RG60TS65D	107		
		40											RG80TS65D	108		
		50											RG00TS65D	109		
		RGS series (tsc 8µsec Min)	650	30							RGS80TS65HR	110	RGS80TS65DHR	120		
40									RGS80TS65HR	111	RGS80TS65DHR	121				
50												RGS00TS65DHR	122			
												New RGSX5TS65DHR	123			
												RGS00TS65EHR	124			
75										New RGSX5TS65E	125					
											New RGSX5TS65EHR	126				
RGS series (tsc 10µsec Min)	1,200	15							RGS30TSX2HR	114	RGS30TSX2DHR	127				
		25							RGS30TSX2	115	RGS30TSX2D	128				
		40										RGS50TSX2HR	116	RGS50TSX2DHR	129	
												RGS50TSX2	117	RGS50TSX2D	130	
										RGS80TSX2HR	118	RGS80TSX2DHR	131			
										RGS80TSX2	119	RGS80TSX2D	132			

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

Field Stop Trench IGBT

Standard type

Field Stop Trench IGBT													Package	Equivalent Circuit Diagram	Automotive Grade AEC-Q101	
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)				
			Tc=25°C	Tc=100°C					Tc=25°C	Tc=100°C						
1	RGTH40TS65	650	40	20	144	1.6	20	—	—	—	—	—	TO-247GE		—	
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	RGW40TS65	650	40	20	136	1.5	20	—	—	—	—	—	TO-247N		—	
22	RGW50TS65	650	50	25	156	1.5	25	—	—	—	—	—			—	—
23	RGW60TS65	650	60	30	178	1.5	30	—	—	—	—	—			—	—
24	New RGW60TS65HR	650	60	30	178	1.5	30	—	—	—	—	—			—	YES
25	RGW80TS65	650	78	40	214	1.5	40	—	—	—	—	—			—	—
26	New RGW80TS65HR	650	78	40	214	1.5	40	—	—	—	—	—			—	YES
27	RGW00TS65	650	96	50	254	1.5	50	—	—	—	—	—			—	—
28	New RGW00TS65HR	650	96	50	254	1.5	50	—	—	—	—	—			—	YES
29	RGWX5TS65	650	132	75	348	1.5	75	—	—	—	—	—			—	—
30	New RGWX5TS65HR	650	132	75	348	1.5	75	—	—	—	—	—			—	YES
31	RGW40TS65D	650	40	20	136	1.5	20	—	40	20	1.45	20	—	—		
32	RGW50TS65D	650	50	25	156	1.5	25	—	40	20	1.45	20	—	—		
33	RGW60TS65D	650	60	30	178	1.5	30	—	40	20	1.45	20	—	—		
34	New RGW60TS65DHR	650	60	30	178	1.5	30	—	40	20	1.45	20	—	YES		
35	New RGW60TS65EHR	650	60	30	178	1.5	30	—	56	33	1.45	30	—	YES		
36	RGW80TS65D	650	78	40	214	1.5	40	—	40	20	1.45	20	—	—		
37	New RGW80TS65DHR	650	78	40	214	1.5	40	—	40	20	1.45	20	—	YES		
38	New RGW80TS65EHR	650	78	40	214	1.5	40	—	73	43	1.45	40	—	YES		
39	RGW00TS65D	650	96	50	254	1.5	50	—	56	30	1.45	30	—	—		
40	New RGW00TS65DHR	650	96	50	254	1.5	50	—	56	30	1.45	30	—	YES		
41	New RGW00TS65EHR	650	96	50	254	1.5	50	—	84	50	1.45	50	—	YES		
42	RGWX5TS65D	650	132	75	348	1.5	75	—	73	40	1.45	40	—	—		
43	New RGWX5TS65DHR	650	132	75	348	1.5	75	—	73	43	1.45	40	—	YES		
44	New RGWX5TS65EHR	650	132	75	348	1.5	75	—	127	80	1.45	75	—	YES		
45	New RGW60TS65CHR	650	64	39	178	1.5	30	—	39	25	1.35	20	—	YES		
46	New RGW80TS65CHR	650	81	48	214	1.5	40	—	39	25	1.35	20	—	YES		
47	New RGW00TS65CHR	650	96	58	254	1.5	50	—	39	25	1.35	20	—	YES		
48	RGW40TK65	650	27	16	61	1.5	20	—	—	—	—	—	TO-3PFM		—	
49	RGW50TK65	650	30	18	67	1.5	25	—	—	—	—	—			—	—
50	RGW60TK65	650	33	20	72	1.5	30	—	—	—	—	—			—	—
51	RGW80TK65	650	39	23	81	1.5	40	—	—	—	—	—			—	—
52	RGW00TK65	650	45	26	89	1.5	50	—	—	—	—	—			—	—
53	RGW40TK65D	650	27	16	61	1.5	20	—	27	16	1.45	20			—	—
54	RGW50TK65D	650	30	18	67	1.5	25	—	27	16	1.45	20			—	—
55	RGW60TK65D	650	33	20	72	1.5	30	—	27	16	1.45	20			—	—
56	RGW80TK65D	650	39	23	81	1.5	40	—	27	16	1.45	20			—	—
57	RGW80TK65E	650	39	23	81	1.5	40	—	46	26	1.45	50			—	—
58	RGW00TK65D	650	45	26	89	1.5	50	—	34	19	1.45	30	—	—		
59	RGCL60TS60	600	48	30	111	1.4	30	—	—	—	—	—	TO-247N		—	
60	RGCL80TS60	600	65	40	148	1.4	40	—	—	—	—	—			—	—
61	RGCL60TS60D	600	48	30	111	1.4	30	—	35	20	1.45	20	—	—		
62	RGCL80TS60D	600	65	40	148	1.4	40	—	35	20	1.45	20	—	—		
63	RGCL60TK60	600	30	18	54	1.4	30	—	—	—	—	—	TO-3PFM		—	
64	RGCL80TK60	600	35	21	57	1.4	40	—	—	—	—	—			—	—
65	RGCL60TK60D	600	30	18	54	1.4	30	—	26	15	1.45	20			—	—
66	RGCL80TK60D	600	35	21	57	1.4	40	—	26	15	1.45	20			—	—

Note: Package is JEDEC code.

*1 Built-in Fast Recovery Diode.
*2 Built-in SiC Schottky Barrier Diode.

SCSOA Guaranteed type

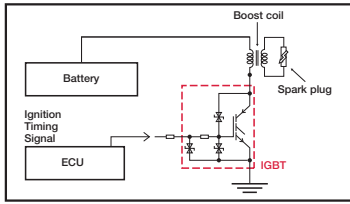
Field Stop Trench IGBT															
No.	Part No.	V _{CE(S)} (V)	I _C (A)		P _D (W)	V _{CE(sat)} Typ (V)		tsc Min (μsec)	I _F (Diode) (A)		V _F (Diode) Typ (V)		Package	Equivalent Circuit Diagram	Automotive Grade AEC-Q101
			Tc=25°C	Tc=100°C		Typ	I _C (A)		Tc=25°C	Tc=100°C	I _F (A)				
67	RGC80TSX8R	1,800	80	40	535	2.2	40	—	80	40	1.8	40	TO-247N		—
68	RGTV60TS65	650	60	30	194	1.5	30	2	—	—	—	—	TO-247N		—
69	RGTV80TS65	650	78	40	234	1.5	40	2	—	—	—	—			—
70	RGTV00TS65	650	95	50	276	1.5	50	2	—	—	—	—			—
71	RGTVX2TS65	650	111	60	319	1.5	60	2	—	—	—	—			—
72	RGTVX6TS65	650	144	80	404	1.5	80	2	—	—	—	—			—
73	RGTV60TS65D	650	60	30	194	1.5	30	2	56	30	1.45	30			—
74	RGTV80TS65D	650	78	40	234	1.5	40	2	73	40	1.45	40			—
75	RGTV00TS65D	650	95	50	276	1.5	50	2	84	50	1.45	50			—
76	RGTVX2TS65D	650	111	60	319	1.5	60	2	98	60	1.45	60			—
77	RGTVX6TS65D	650	144	80	404	1.5	80	2	127	80	1.45	80			—
78	RGTV60TK65	650	33	20	76	1.5	30	2	—	—	—	—	TO-3PFM		—
79	RGTV80TK65	650	39	23	85	1.5	40	2	—	—	—	—			—
80	RGTV00TK65	650	45	26	94	1.5	50	2	—	—	—	—			—
81	RGTV60TK65D	650	33	20	76	1.5	30	2	34	19	1.45	30			—
82	RGTV80TK65D	650	39	23	85	1.5	40	2	40	23	1.45	40			—
83	RGTV00TK65D	650	45	26	94	1.5	50	2	46	26	1.45	50	—	—	
84	RGT8BM65D	650	8	4	62	1.65	4	5	7	4	1.45	4	TO-252		—
85	RGT16BM65D	650	16	8	94	1.65	8	5	16	8	1.4	8			—
86	RGT8NS65D	650	8	4	65	1.65	4	5	7	4	1.45	4			—
87	RGT16NS65D	650	16	8	94	1.65	8	5	16	8	1.4	8			—
88	RGT20NS65D	650	20	10	106	1.65	10	5	16	8	1.4	8			—
89	RGT30NS65D	650	30	15	133	1.65	15	5	26	15	1.5	15	TO-263S (LPDS)/ TO-262		—
90	RGT40NS65D	650	40	20	161	1.65	20	5	35	20	1.45	20			—
91	RGT50NS65D	650	48	25	194	1.65	25	5	35	20	1.45	20			—
92	RGT20NL65	650	20	10	106	1.65	10	5	—	—	—	—	TO-263L (LPDL)		—
93	RGT8NL65D	650	8	4	65	1.65	4	5	7	4	1.45	4			—
94	RGT16NL65D	650	16	8	94	1.65	8	5	16	8	1.4	8			—
95	RGT20NL65D	650	20	10	106	1.65	10	5	16	8	1.4	8			—
96	RGT30NL65D	650	30	15	133	1.65	15	5	26	15	1.5	15			—
97	RGT40NL65D	650	40	20	161	1.65	20	5	35	20	1.45	20	—	—	
98	RGT50NL65D	650	48	25	194	1.65	25	5	35	20	1.45	20	—	—	
99	RGT8TM65D	650	5	3	16	1.65	4	5	5	3	1.45	4	TO-220NFM		—
100	RGT16TM65D	650	9	5	22	1.65	8	5	13	7	1.4	8			—
101	RGT20TM65D	650	10	6	25	1.65	10	5	13	7	1.4	8			—
102	RGT30TM65D	650	14	8	32	1.65	15	5	17	9	1.5	15			—
103	RGT40TM65D	650	17	10	39	1.65	20	5	22	13	1.45	20			—
104	RGT50TM65D	650	21	13	47	1.65	25	5	22	13	1.45	20			—
105	RGT40TS65D	650	40	20	144	1.65	20	5	35	20	1.45	20			—
106	RGT50TS65D	650	48	25	174	1.65	25	5	35	20	1.45	20			—
107	RGT60TS65D	650	55	30	194	1.65	30	5	40	20	1.35	20			—
108	RGT80TS65D	650	70	40	234	1.65	40	5	40	20	1.35	20			—
109	RGT00TS65D	650	85	50	277	1.65	50	5	50	30	1.45	30	—	—	
110	RGS60TS65HR	650	56	30	223	1.65	30	8	—	—	—	—	—	YES	
111	RGS80TS65HR	650	73	40	272	1.65	40	8	—	—	—	—	—	YES	
112	RGS00TS65HR	650	88	50	326	1.65	50	8	—	—	—	—	—	YES	
113	New RGSX5TS65HR	650	114	75	404	1.7	75	8	—	—	—	—	—	YES	
114	RGS30TSX2HR	1,200	30	15	267	1.7	15	10	—	—	—	—	—	YES	
115	RGS30TSX2	1,200	30	15	267	1.7	15	10	—	—	—	—	—	—	
116	RGS50TSX2HR	1,200	50	25	395	1.7	25	10	—	—	—	—	—	YES	
117	RGS50TSX2	1,200	50	25	395	1.7	25	10	—	—	—	—	—	—	
118	RGS80TSX2HR	1,200	80	40	555	1.7	40	10	—	—	—	—	—	YES	
119	RGS80TSX2	1,200	80	40	555	1.7	40	10	—	—	—	—	—	—	
120	RGS60TS65DHR	650	56	30	223	1.65	30	8	56	30	1.45	30	—	YES	
121	RGS80TS65DHR	650	73	40	272	1.65	40	8	56	30	1.45	30	—	YES	
122	RGS00TS65DHR	650	88	50	326	1.65	50	8	56	30	1.45	30	—	YES	
123	New RGSX5TS65DHR	650	114	75	404	1.7	75	8	84	50	1.45	50	—	YES	
124	RGS00TS65EHR	650	88	50	326	1.65	50	8	84	50	1.45	50	—	YES	
125	New RGSX5TS65E	650	114	75	404	1.7	75	8	127	75	1.45	75	—	—	
126	New RGSX5TS65EHR	650	114	75	404	1.7	75	8	127	75	1.45	75	—	YES	
127	RGS30TSX2DHR	1,200	30	15	267	1.7	15	10	30	15	1.65	15	—	YES	
128	RGS30TSX2D	1,200	30	15	267	1.7	15	10	30	15	1.65	15	—	—	
129	RGS50TSX2DHR	1,200	50	25	395	1.7	25	10	50	25	1.65	25	—	YES	
130	RGS50TSX2D	1,200	50	25	395	1.7	25	10	50	25	1.65	25	—	—	
131	RGS80TSX2DHR	1,200	80	40	555	1.7	40	10	80	40	1.65	40	—	YES	
132	RGS80TSX2D	1,200	80	40	555	1.7	40	10	80	40	1.65	40	—	—	

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

*Built-in Fast Recovery Diodes

Ignition IGBT

●Circuit Example for Ignition IGBT



Ignition IGBT										
Part No.	V _{CEs} (V)	V _{GES} (V)	I _c (A)	P _b (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	
RGPR50NL45HRB	450±30	±10	45	187	500	1.6	TO-263L (LPDL)	YES		

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

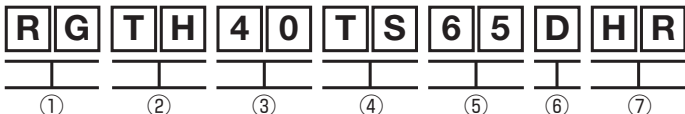
☆: Under Development

●Dimensions (Unit: mm)

TO-252 Each lead has same dimensions	TO-263S (LPDS) Each lead has same dimensions	TO-263L (LPDL) Each lead has same dimensions	TO-262 Each lead has same dimensions
TO-220NFM Each lead has same dimensions	TO-247N Each lead has same dimensions	TO-247GE Each lead has same dimensions	TO-3PFM Each lead has same dimensions

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

●Product No. Explanation



- ① IGBT
- ② Series Name
- ③ I_c<T_c=100°C>
ex. 8 → 4A
16 → 8A
30 → 15A
00 → 50A
X6 → 80A
- ④ Package
ex. BM → TO-252
NS → TO-263S (LPDS)/
TO-262
NL → TO-263L (LPDL)
TM → TO-220NFM
TS → TO-247N/TO-247GE
TK → TO-3PFM
- ⑤ V_{CEs}
ex. 65 → 650V
- ⑥ Built-in Diode
C → Built-in SiC Schottky Barrier Diode
D → Built-in Fast Recovery Diode
- ⑦ 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-247GE	C13	Tube	30
TO-3PFM	C11	Tube	30

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